

MEN'S ENGAGEMENT WITH MENTAL HEALTH TREATMENT: TOWARDS INCLUSIVE INTERVENTIONS IN LOW- INCOME CONTEXTS

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A dissertation submitted to Johns Hopkins University in conformity with the
requirements for the degree of Doctor of Philosophy

Baltimore, Maryland
May 2019

Abstract

Men are less likely to hold favorable attitudes towards seeking care, and less likely to use formal assistance for psychological problems. A negative relationship has been observed between endorsement of masculine norms, and both the likelihood of favorable help-seeking attitudes and presenting for therapy. There is little research on men's mental health, and how to address poor engagement with mental health services. There has been still less focus on addressing men's mental health needs in low- and middle-income countries (LMICs).

Chapter One is an overview of issues related to mental health treatment in the developing world, with specific attention to men's lack of engagement in services. *Chapter Two* provides a brief literature review of background information pertinent to the three specific research aims. In *Chapter Three*, we used qualitative methods to identify thematic content related to mental health care initiation among men living in Yangon, Myanmar. We conducted thematic analysis of interviews to identify patterns in participant-described barriers that prevent mental health service use among male former political prisoners. Honesty and morality, self-reliance, and leadership were critical features of Burmese masculinity.

Chapter Four utilized a pooled, multi-country dataset from five randomized controlled trials among trauma-affected adults in five LMICs – the Democratic Republic of Congo, Iraqi Kurdistan, the Thailand-Burma Border, Southern Iraq, and Colombia. We explored the moderating effect of gender on the relationship between individual-level characteristics and completion, and found significant moderation based on gender and depression scores, such that men with higher depression scores were significantly less likely to complete treatment than men with lower scores.

Chapter Five examines person- and counselor-level factors related to treatment completion among men in the same pooled dataset, with specific attention to the role of depression in men’s attrition. We examined individual characteristics alongside broader clinical features (e.g. counselor age), along with additional models to explore the contextual effect of depression among counselor’s caseloads. Men were ~70% more likely to drop out of a given intervention for a one-point increase on their mean depression rating. There were no significant effects for context, or counselor level covariates. Lastly, *Chapter Six* discusses these findings in context, as well as broader implications for research and practice. The findings presented here serve as an exploration of the potentially modifiable factors that may better engage men in mental health services.

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Acknowledgements

Just like in an old movie, the credits come at the beginning of this thing. The experience of writing my dissertation reminded me of the birth of Athena. According to the Ancient Greeks, the Goddess of Wisdom erupted out of Zeus's head fully armored, like a celestial wrecking ball. The whole connection between headaches, something knowledge-related blowing out of your forebrain, and the fundamentally solitary nature of the experience all resonated with me. Listed here are the pantheon of helpers, family, mentors, friends, and leaders who assisted as best as anyone can when dealing with such a bizarre exercise.

I was lucky enough to have two of the foremost global mental health researchers in the world advising me throughout this process. By working with both of them, I was able to keep a foot in the worlds of research and practice, and I'm grateful for that.

To Wietse Tol, my dissertation advisor - I have always appreciated the fact that we've been more akin to colleagues in our working relationship than boss and serf. I admire the way you've been able to balance your professional and intellectual interests, and I hope to emulate that consideration in my own career. Thank you for your candor, your thoughtfulness, and for being a good role model. You approach your work with intellectual honesty and compassion, and I hope that I can do the same as consistently as you do.

To Judy Bass, my doctoral advisor – reading your work as a master's student was the reason I pursued global mental health. As a mentor, you've continued to expand what I believed to be possible in research while managing to be generous with your time. Thank you for advocating for me, for sending me into the field and encouraging me to love every second of it, and for always expecting more of me when it was helpful but understanding

when it wasn't. I deeply admire your drive and your dedication to mentorship, and will do my best to emulate it down the line.

To my dissertation readers and preliminary orals committee – Thank you Carl Latkin & Court Robinson for your patience and expertise (and for passing me), and to Peter Winch, Rashelle Musci, and Janice Bowie for waiting in the wings as alternates. Thank you, Arik Marcell, Sabriya Linton, and Tamar Mendelson for participating in my preliminary oral examination. Thank you to the National Institute of Mental Health's Global Mental Health Training Grant (T32MH103210) for providing the funding and tuition that enabled my doctoral education. To the Department of Mental Health Staff, most notably Patty Scott, Candice Davis, and Carlina Carter – thank you for keeping the wheels on and for making sure we get out of here in one piece.

While Judy & Wietse were my primary coaches, I would like to thank my past mentors for spurring my interests and encouraging me to remain dedicated, specifically Irene Lopez & Michael Levine from Kenyon College, Andy Mattai from the NIH, and Lena Verdeli from Columbia University. Thank you for teaching me to love research and culture, and for your continued support even after all this time.

I would like to acknowledge the support and interview team in Myanmar who made the bulk of this dissertation possible –Zwe Pye, Zar Kyi Min, Cate Lee, Matt Schojan and U Bo Kyi. I would like to specially recognize Kyaw Soe Win, Htin Aung, and Cherry Soe Myint for their dedication the interview processes, their help in navigating a new context, and their attitudes throughout all of the work. I hope to see you all again. To Mike Dunford & Kate Bailie, thank you for being my guardians, for showing me a good time in weird places, and for helping me muddle through two months in Yangon during rainy season.

To the Global Mental Health lab and my friends – a special thanks to Jeremy Kane for his help on the combined data set and for his good natured responses to stupid questions; to Sarah Murray for being equal parts good mentor and good friend; to Ben Doty and Sam Cooper for being in the same boat at the same time, but still supporting me throughout; and to our neighbors/colleagues/friends downstairs, Jura and Guido thanks for taking care of Sonia while I was away and for taking care of me while she was away.

To my parents, Karen and Paul – thank you for valuing education and for believing that I could excel. It's a privilege knowing that I am following in the footsteps of my grandfather and father by pursuing research. To Neil and Hilary – thanks for making trips to Baltimore, for picking up the phone, and for being good siblings and friends all around. And lastly, to my wife Sonia, through whom all things are possible. None of this could have happened without you.

Table of Contents

Introduction	- 1 -
1.1 Background and Significance	- 1 -
1.2 Specific Aims	- 5 -
1.3 Conceptual Framework	- 6 -
1.4 References	- 9 -
Literature Review	- 15 -
2.1 Global Mental Health: Origins and Epidemiology	- 15 -
2.2 Men's Engagement with Mental Health Services	- 19 -
2.3 Country Information	- 20 -
2.4 References	- 26 -
Thoughts Like a River – Masculinity and Mental Health Treatment Initiation for Former Political Prisoners in Yangon, Myanmar	- 35 -
3.1 Abstract	- 35 -
3.2 Introduction	- 37 -
3.3 Methods	- 38 -
3.4 Results	- 48 -
3.5 Discussion: Treatment Engagement in Context	- 64 -
3.6 References	- 67 -
Gender as a moderating factor for intervention completion in low-income contexts: Identifying modifiable factors for treatment adherence	- 74 -
4.1 Abstract	- 74 -
4.2 Background and Significance	- 76 -
4.3 Methods	- 78 -
4.4 Results	- 88 -
4.5 Discussion	- 93 -
4.6 References	- 97 -
Individual- and Counselor-Level Predictors of Treatment Completion Among Men in Low-Income Contexts: Examining the Role of Depressive Symptoms	- 107 -
5.1 Abstract	- 107 -
5.2 Background and Significance	- 109 -
5.3 Methods	- 111 -
5.3 Results	- 121 -
5.4 Discussion	- 125 -
5.5 References	- 128 -

Conclusions _____	- 139 -
6.1 Summary of Findings _____	- 139 -
6.2 Strengths and Limitations _____	- 142 -
6.3 Implications for Research _____	- 144 -
6.4 Implications for Practice _____	- 146 -
6.5 References _____	- 148 -

List of Tables And Figures

Figure 1.1: Guiding framework regarding men’s engagement with mental health services	- 7 -
Figure 2.1: Bio-psycho-social interactions that produce negative mental health outcomes (from Mahalik et al, 2007)	- 18 -
Figure 4.1: Visualization of interaction effect for gender and depression	- 92 -
Table 3.1: Inclusion criteria for depression and PTSD	- 46 -
Table 3.2: Outline of thematic content with subthemes discussed	- 48 -
Table 4.1: Demographic and clinical characteristics of the analytic sample	- 89 -
Table 4.2: Adjusted odds ratios (aOR) from five iterative logistic models	- 91 -
Table 5.1: Sample characteristics and demographics	-121-
Table 5.2: Iterative model comparisons	-122-
Table 5.3: Crude and adjusted odds ratios (aOR) of treatment completion – total and contextual effects	-123-
Table 5.4: Table 5.4: 2 x 2 Table of MID changes by completer status with missing participants included	-125-

List of Appendices

Appendix A: IRB-Approved Interview Materials _____	152
A.1 Unmodified Semi-Structured Interview Guidelines _____	152
A.2 Recruitment Script _____	153
A.3 Informed Consent _____	153
Appendix B: Correlation Matrices, 2 x 2 Tables, and Exploratory Information Related to Chapter 4 _____	156
Appendix C: Analysis code for bootstrapped models used in Chapter 4 _____	162
Appendix D: Correlation matrices, 2 x 2 tables, Chi-square and t-test results from exploratory analyses related to Chapter 5 _____	164
Appendix E: Stata code for primary analyses in Chapter 5 _____	172
Appendix F: IRB approval for data collection in Yangon _____	173
Appendix G: Bibliography _____	174
Appendix H: Curriculum Vitae _____	196

Chapter 1

Introduction

1.1 Background and Significance

While many people suffering from mental health problems globally never receive care, this treatment gap is more pronounced in low- and middle-income countries (LMICs) (Funk, 2016; Kohn, Saxena, Levav, & Saraceno, 2004). The reasons for this disparity are complex. Living in settings with endemic poverty and heightened risk of exposure to conflict and trauma increase the likelihood of experiencing depression, anxiety, and posttraumatic stress disorder for both men and women. An estimated 75% of people in need of mental health services in LMICs do not receive treatment (Vos et al., 2012), despite the substantial burden of mental health problems (Murray et al., 2012).

To address the gap between need for and availability of treatment, the field of global mental health seeks to increase capacity for treatment through dissemination, implementation, and evaluation of evidence-based mental health programs in LMICs. Beginning with early trials of psychotherapy in the developing world (e.g. Bolton et al.,

2003), field has focused on capacity building – training health practitioners or laypeople to provide mental health interventions where mental health infrastructure is largely absent. To achieve this goal, a primary goal of research has been the development and testing of effective, culturally- appropriate intervention strategies. Global mental health advocates have called for a closer examination of cultural influences related to the experience of mental health problems, and specific promotion of methods and mechanisms for expanding mental health services in LMICs (Eaton et al., 2011; National Institute of Mental Health, 2017; Patel, 2009).

Although literature suggests that the overall prevalence of common mental disorders is similar among men and women in LMICs, far less information is available on mental health care seeking, retention, and intervention effectiveness among men (Charlson et al., 2016). In high-income countries, extant literature suggests that men more frequently hold poor opinions of mental health care seeking (Berger, Addis, Green, Mackowiak, & Goldberg, 2013), and are less likely to utilize formal mental health treatment (Spendelow, 2014). Men are also less likely to both present for therapy (Primack, Addis, Syzdek, & Miller, 2010), and to hold positive attitudes regarding care seeking writ large (Berger et al., 2013; Galdas, Cheater, & Marshall, 2005; Lynch, Long, & Moorhead, 2016). In the developing world and humanitarian contexts, psychological distress among men has been associated with an increased likelihood of living in poverty, abusing alcohol, and perpetrating gender-based violence (Greene, Kane, & Tol, 2017; Spendelow, 2014), indicating that men's mental health issues have broad familial and social ramifications.

While the adaptation of evidence-based treatments for task-shifting models (i.e. delivery by paraprofessionals and laypeople) has been a key strategy for addressing the treatment gap (Becker & Kleinman, 2013; Bruckner et al., 2011; Patel, 2009), limited effort

has been expended on adapting these strategies specifically for the engagement and treatment needs of men. Culturally-sensitive adaptive approaches that improve the sociocultural fit of evidence-based treatments (Griner & Smith, 2006) and diagnostic practices (Whaley & Davis, 2007) have gained more widespread usage, and are more effective than non-adapted versions of interventions (Benish, Quintana, & Wampold, 2011; Chowdhary et al., 2014). While these adaptations typically focus on specific groups (e.g. youth or new mothers) or entire populations (e.g. adults), with the exception of programs for former combatants, no mental health interventions have been tested or developed specifically for men in humanitarian or LMICs (Charlson et al., 2016). Several trials including both men and women have reported challenges with recruiting, engaging, and retaining men in treatment (Basoglu, Şalcioğlu, & Livanou, 2007; Bolton et al., 2003; Bolton et al., 2014), which may be indicative of latent cultural factors unique to men that limit their engagement with mental health services.

The investigations described here (Chapters 3-5) seek to identify individual- and treatment-related factors related to men's engagement with psychotherapy in low-income contexts. These results may inform how new and existing interventions can better engage male clients, limit their attrition, and encourage treatment adherence. Much of the current literature ascribes men's apparent lack of engagement with mental health treatment to sociocultural factors, such as adherence to traditional masculine gender norms, heteronormativity, or other stereotypes (Addis & Mahalik, 2003). Looking at cultural, socioeconomic, and attitudinal factors specific to men could inform meaningful treatment adaptations that avoid minimizing mental health challenges that may be specific to men. While certain characteristics that influence treatment participation and adherence are readily quantifiable (e.g. income), attitudinal barriers may be more difficult to measure, understand,

and thus address. The decision to begin treatment is multifaceted, and sociobehavioral models may fail to take even the most proximal motivations into consideration. As such, research in Chapter Three sought to gather information regarding the decision to initiate treatment or not, in the participants' own words.

The interplay among societal norms, attitudes towards care, and individual differences is commonly seen to be a driving force behind service seeking behaviors (Schnyder, Panczak, Groth, & Schultze-Lutter, 2017). Chapter Four examines the role of gender as potential moderating factor in the relationship between select individual characteristics and the likelihood of treatment seeking. Chapter Five highlights potential modifiable factors of mental health treatments and key individual characteristics that may impact treatment engagement among men in low-income and humanitarian contexts. All three investigations are part of a broader exploration of motivations for why men might choose to initiate and continue care from a more individualized perspective. There is a paucity of literature available regarding men's engagement with psychotherapy in LMICs (Charlson et al., 2016; Purgato et al., 2018), thus preliminary investigations that identify mutable individual characteristics of the population of interest, as well as features of the treatments themselves, might inform the development of interventions that are better suited for engaging and retaining men.

Too many men with mental health problems do not receive the treatment they need, both domestically and globally. This issue is compounded in LMICs, where mental health need is high, and availability of services is low. There are additional far-reaching negative ramifications for families and communities associated with untreated mental illness among men. Successful mental health trials in LMICs have demonstrated the efficacy of modifying therapies to suit novel cultural contexts and improve engagement with therapy, but most

have focused on women or only included small numbers of men. To provide better care for men and to improve engagement, identifying individual factors and treatment features that shape men's experience with mental health interventions can serve as a starting point for the development and implementation of evidence-based treatments that specifically address men's needs. The research included here seeks to begin identifying factors related to mental health treatment initiation and adherence among men in LMICs.

1.2 Specific Aims

The purpose of this dissertation was to better understand barriers to men's mental health treatment, and to identify potentially modifiable factors related to care initiation and retention for men with common mental health problems in low-income contexts through the following aims:

Aim One: Identify and explore salient themes related to men's mental health care initiation in Yangon, Myanmar - an urban, low-resource setting.

We conducted in-depth interviews ($N = 30$) with men who accepted ($N = 15$) and declined ($N = 15$) participation in a mental health treatment program. We used grounded theory-based thematic analysis to develop themes and subthemes related to masculinity, coping strategies, problem areas, and primary differences between men who accepted and declined therapy.

Aim Two: Explore the potential moderating effect of gender on the relationship between individual-level characteristics and mental health intervention completion across five cultural contexts

We used a large, multi-country dataset compiled as part of an extant secondary data analysis investigation (Bass, R01MH105450). These data were collected in clinical trials of three mental health interventions with both women and men, conducted in Iraqi Kurdistan, Southern Iraq, Northwestern Colombia, the Democratic Republic of Congo (DRC) and the Thailand-Burma border. Binary treatment completion was regressed on individual characteristics (e.g. participant age, mental health symptom levels) using a multi-level framework with the intention of examining differential likelihood of completion between men and women as it relates to those specific characteristics.

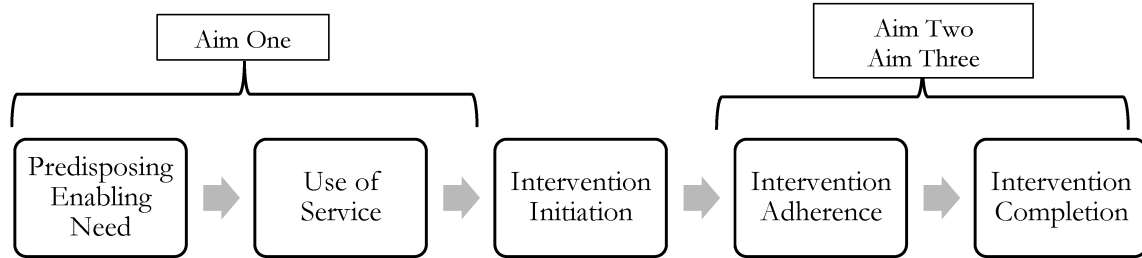
Aim Three: Identify person- and treatment-level factors related to treatment completion among men in the same pooled data set.

Using mixed effect logistic regression, we examined individual characteristics alongside counselor features (e.g. counselor age) in the same multi-country dataset (omitting DRC as there were only female participants). We also explored the potential contextual effect of depression on treatment completion using an iterative, multi-level modeling framework.

1.3 Conceptual Framework

The broader conceptual framework for these investigations, and how each aim fits therein, is presented in Figure 1.1. We developed this framework using sociobehavioral conceptualizations of treatment seeking (Andersen, 1995), gender theory related to masculinity and identity (Addis & Mahalik, 2003; Courtenay, 2000), and the general structure of the Cascade of Care concept from the HIV literature (e.g. Deeks, Lewin, & Havlir, 2013; Zanoni & Mayer, 2014).

Figure 1.1 - Guiding framework regarding men's engagement with mental health services



Aim One seeks to qualitatively address men's decision to accept or decline a mental health intervention. Predisposing, enabling, and need-based factors refer to societal/biological imperatives that influence the likelihood of health care seeking, availability of health services, and individual conceptualizations of illness severity or evaluation of illness severity by professionals (Andersen, 1995). These are essentially the background forces that may impel an individual to seek treatment. While gender fits conceptually under predisposing factors, gender socialization and perceived need can be heterogenous between individuals, within the same individual, and across cultures and contexts (Addis & Mahalik, 2003; Galdas et al., 2005). As such, its role can be more or less pronounced depending on which services are sought (Courtenay, 2000; Seidler, Dawes, Rice, Oliffe, & Dhillon, 2016).

Use of services encompasses encounters with different providers but differs from treatment initiation in that accessing services for the first time does not guarantee that a treatment will indeed be initiated. Aim One is perhaps more specifically concerned with the connection between service use and treatment initiation, with special consideration for the predisposing, enabling, and need-based factors that lead a given participant to his decision regarding treatment initiation.

Aims Two and Three address a similar question to different degrees of specificity. While there is some evidence in large, population-base surveys that there is a difference

between men and women in terms of service use (Buffel, Van de Velde, & Bracke, 2014; Seedat, Scott, Angermeyer, & et al., 2009; Susukida, Mojtabai, & Mendelson, 2015), it is unclear if this gender difference is consistent in low-income context or if it persists among people already in treatment (i.e. are women more likely than men to complete therapy). As such, Aim Two is more specifically concerned with potential differences between men and women in terms of individual factors that may make a participant more likely to complete an intervention. Aim Three examines features of the intervention as well as individual men to examine how these two levels of influence might be related to intervention completion, with specific attention to the role of depression symptom severity in premature termination of therapy.

Global mental health is a nascent field seeking to improve treatment systems in low-resource settings by testing novel interventions in circumstances with few resources, and substantial cultural, societal, and policy barriers. To date, there are no studies that examine individual and treatment factors related to intervention completion among men in low- and middle-income countries. While formative in scope, these investigations serve as a platform for further research regarding the development of treatment programs specifically designed to better engage men in low-resource contexts both domestically and globally.

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Chapter 2

Literature Review

2.1 Global Mental Health: Origins and Epidemiology

Globally, a large treatment gap exists between those who need mental health care and those who receive it (Funk, 2016; Kohn, Saxena, Levav, & Saraceno, 2004). To address the burden of mental disorders in low- and middle-income countries (LMICs), the field of global mental health seeks to promote closer examination of cultural aspects related to mental health, and improve methods and mechanisms for expanding mental health services in the developing world (Eaton et al., 2011; National Institute of Mental Health, 2017; Patel et al., 2007). Extant research focuses largely on addressing the treatment gap through task shifting – training professionals and paraprofessionals to provide mental health care in clinical and community settings (Patel, 2009; Semrau et al., 2015).

Research and practice in global mental health are predicated on balancing the culturally-specific demands of a given context with more universal qualities of psychological distress. Instruments for measuring symptom for disorders, such as major depression or

traumatic stress disorders, are not necessarily valid across culture and context (Bolton, 2001), nor are subsequent treatments. Adapting interventions through translation and incorporating community input and idioms can increase their effectiveness (Chowdhary et al., 2014), even when utilizing lay providers (van Ginneken et al., 2013). Given the elevated burden of mental disorders in the developing world (Funk, 2016; C. J. L. Murray et al., 2012; Vos et al., 2012) and the lack of developed mental health infrastructure (Bruckner et al., 2011), adaptation and flexibility are core principles of global mental health research and practice. Understanding culture and context are subsequently of critical importance for the field, and inform most foundational work for major dissemination and implementation efforts.

Mental Disorder Epidemiology in the Developing World

In low-income settings, countries exposed to sectarian violence and conflict have the highest projected lifetime risk of mental disorders (Charlson et al., 2016; De Jong, Komproe, & Van Ommeren, 2003). Given the increased likelihood of conflict, poverty and political instability in low-income and humanitarian contexts (Saraceno et al., 2007), the burden of mental disorders is higher in LMICs than in high income countries (HIC) (C. J. L. Murray et al., 2012; Vos et al., 2012). Internationally, population-based studies indicate that the overall prevalence of mental disorders is not different between men and women, but that the types of disorders experienced vary by gender (Seedat, Scott, Angermeyer, & et al., 2009; The World Health Organization World Mental Health Survey Consortium, 2004). Broadly speaking, women are more likely to present with internalizing disorders (e.g. major depressive disorder, generalized anxiety disorder, eating disorders), while men are more likely to present with externalizing problems (e.g. substance use disorders, antisocial behavior) (Kessler et al., 2010; Seedat et al., 2009; World Health Organization, 2002). Findings from

high-income countries suggest that women are 60% more likely to report internalizing problems, and men are 40% more likely to report issues with externalizing (Kessler, Chiu, Demler, & Walters, 2005; Kessler et al., 2010). Lifetime experience of major depressive disorder was estimated to be 70% more likely for women in a US-based sample (Kessler et al., 2005). The prevalence gap in internalizing disorders between men and women has narrowed in younger age cohorts, most notably for depression (Seedat et al., 2009).

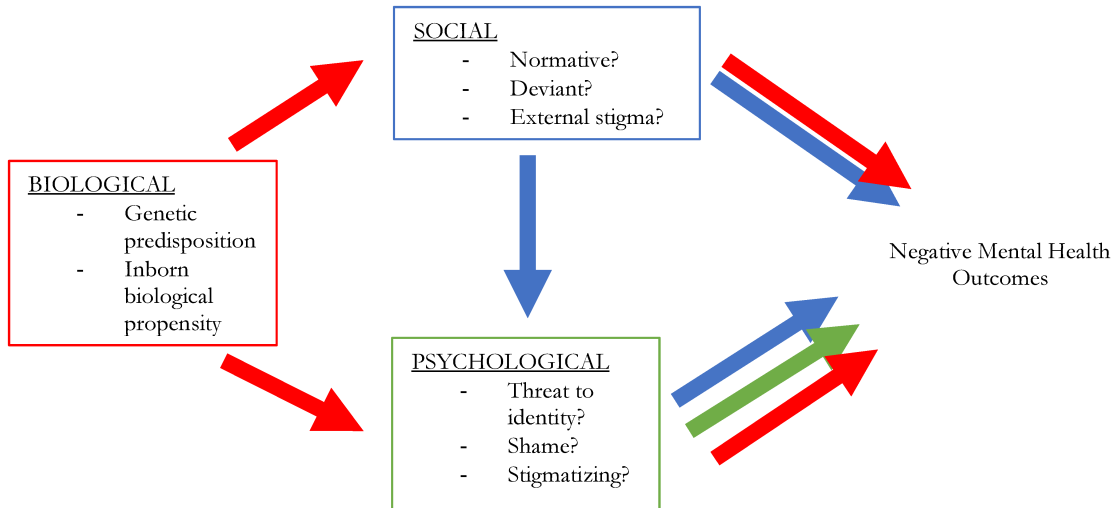
Underlying Factors Driving Gender Differences in Mental Health Problems

In this section, sex refers to one's biological assignment at birth (i.e. male or female), whereas gender refers to one's masculine or feminine identity. There are some data to suggest epigenetic underpinnings for sex differences in the likelihood of developing specific mental disorders (Mill & Petronis, 2007). DNA methylation patterns in infants can have profound impacts on cognition and brain functioning in later life, related to attention and emotional regulation (Jessen & Auger, 2011). Reproductive biology has a hypothesized role in increased likelihood for mood and anxiety disorders among women, specifically postpartum depression, hormonal changes related to menstruation, and emotional distress related to infertility and hysterectomies (World Health Organization, 2002).

While these genetic and biological components could be related to different rates of mental disorders among men and women, the prevalence gap appears to be driven more by sociobehavioral differences between genders (Addis, 2008). In one theoretical framework posited by Mahalik and colleagues (Mahalik, Burns, & Syzdek, 2007), reproduced in Figure 2.1, biology interacts with social contexts such that a biological predisposition for mental

health problems is realized depending on how normalized a given mental health condition is for a specific gender.

Figure 2.2: Bio-psycho-social interactions that produce negative mental health outcomes (from Mahalik et al., 2007)



Biological determinants can in turn interact with psychological factors, as individuals with a latent biological predisposition can experience a mental health issue depending on shame, stigma, or perceived threats to identity associated with a given mental disorder. Social contexts interact with psychological factors, as context (e.g. societal stigma or shame surrounding mental disorders) can lead to the development of individual beliefs regarding the level of acceptability or shame associated with mental health problems. Lastly, biological predispositions can interact with both social and psychological factors such that men and women with certain genetic vulnerabilities can express that disorder depending on how normative it is in a given social context and how normative it is perceived to be individually.

The World Health Organization has called for more research that examines how gender differences influence risk and vulnerability to mental disorders, and access to their health services (World Health Organization, 2019). Extant research in both prevalence and treatment for mental disorders should potentially look beyond narrowly-defined gender

differences to focus on cultural, economic and political systems as contributory factors that can influence both the expression of mental disorders, as well as the individual treatment engagement.

2.2 Men's Engagement with Mental Health Services

Evidence from high-income countries suggest that men more frequently hold poor opinions of mental health care seeking (Berger, Addis, Green, Mackowiak, & Goldberg, 2013), and are less likely to utilize formal mental health treatment (Spendelow, 2014). Men are also less likely to both present for therapy (Primack, Addis, Syzdek, & Miller, 2010), and to hold positive attitudes regarding care seeking writ large (Berger et al., 2013; Galdas, Cheater, & Marshall, 2005; Lynch, Long, & Moorhead, 2016). Men are also more likely to drop out of interventions for PTSD (Spinazzola, Blaustein, & van der Kolk, 2005) and depression (Addis & Hoffman, 2017; Primack et al., 2010).

While these attitudinal barriers to men's engagement with mental health services have been identified in high-income context, the extent to which these factors are important in LMICs requires additional research. In such contexts, psychological distress among men has been associated with an increased likelihood of living in poverty, abusing alcohol, and perpetrating gender-based violence (Greene, Kane, & Tol, 2017; Spendelow, 2014). Yet, with the exception of programs for former combatants, no mental health interventions have been tested or developed specifically for men in humanitarian contexts or LMICs more generally (Purgato et al., 2018). Developing therapy programs for men could improve their mental health outcomes, though areas to which modifications might be beneficial (e.g. intervention materials or descriptions) remain largely unexplored.

2.3 Country Information

This dissertation uses data from six different settings: Southern Iraq, Iraqi Kurdistan, Myanmar, the Thailand-Burma Border, Colombia, and the Democratic Republic of Congo. A description of each setting is presented below.

Iraq and Iraqi Kurdistan

Iraq is home to over 36 million people, with a relatively young population (median age 19.3 years, 20.4 million between 15-64 years old; (United Nations Development Programme, 2016)). It has been plagued by governmental instability, human rights abuses, open conflict, poverty and unemployment for decades (Central Intelligence Agency, 2018). The data utilized in this investigation comes from two distinct regions in Iraq – the autonomous region of Iraqi Kurdistan in the northwestern part of the country, and the southern cities of Basra, Nassariyah, Karbala, Najaf and Hilla. Iraq has experienced conflict and open warfare for the last thirty years. Most recently, fallout from the civil war in neighboring Syria and the rise of the Islamic State in Iraq and the Levant (ISIL) have caused widespread violence and human rights abuses throughout the country, though the rise of ISIL occurred after the trials included in this data analysis were complete.

Kurdistan gained recognition as an autonomous region following an armed offensive in 2014. It is comprised of four governates – Erbil, Duhok, Silemani, and Halabja. Bordering Syria and Turkey, it is home to the largest ethnic minority in Iraq (nearly 6 million people). Kurdish is a recognized official language in Iraq, though many ethnic Kurds speak dialects of Arabic as well (Central Intelligence Agency, 2018). Prior to the rise of ISIL, Kurdistan experienced relatively little violence throughout the opening of the 21st century. However,

before the 2003 collapse of the ruling Ba'ath Party and Saddam Hussein, ethnic Kurds were the subject of the genocidal Anfal campaign perpetrated by the Iraqi government beginning in the late 1980's and ending after the Gulf War in the early 90's.

Many who lived through the Anfal continue to suffer problems attributable to those experiences, such as poverty, discrimination, stigma, mental health problems, and difficulty with social, physical, and economic functioning (Bolton, Michalopoulos, Ahmed, Murray, & Bass, 2013). Data for the trial included in this database were collected to examine the efficacy of two interventions, Behavioral Activation (BA) and Cognitive Processing Therapy (CPT), provided in rural health clinic settings for torture and trauma survivors. Both interventions were compared to a waitlist control condition (Bolton, Bass, et al., 2014). Community mental health workers provided each intervention at different sites to 215 participants randomly assigned to one of the psychotherapy conditions, 91 (42%) of whom were male – 49 in the BA group, 42 in CPT. In the BA group 13 men (26.5%) were non-completers. In CPT, 10 (23.8%) did not complete the intervention. The results demonstrated a significant reduction of depressive symptoms and functional impairment with large and moderate effect sizes for BA and CPT, respectively (Bolton, Bass, et al., 2014).

Sites for the trial in southern Iraq include cities from five of the country's 19 governorates, encompassing rural and urban settings, and ranging from the southern border with Kuwait, to just 100 kilometers south of Baghdad in central Iraq. The regions included in this trial have been subjected to armed conflict intermittently since the mid-20th century. The data were collected as part of a trial comparing two interventions, the Common Elements Therapy Approach (CETA) and CPT among torture and trauma survivors. Both interventions were compared to a waitlist control condition (Weiss et al., 2015). Non-specialized health workers were trained in CETA or CPT to provide the intervention in a

primary healthcare setting. There were 228 participants in the treatment arms, with 154 men participating (67%; n = 87 in CPT arm, n= 67 in CETA arm). There was one non-completer in the CETA group (1.4%) and 13 (14.9%) in the CPT group. There were significant effect sizes for both interventions on PTS symptoms and depression, with CPT demonstrating moderate effect sizes for both categories, and CETA demonstrating large effect sizes in all outcomes.

Myanmar and the Thailand-Burma Border

Myanmar is a diverse, largely rural country in South East Asia inhabited by nearly 53 million people in 15 different administrative districts. There are approximately 135 different ethnic groups, and more than 100 languages spoken (Central Intelligence Agency, 2018). Yangon, it's largest city and former capital, contains roughly 5 million people and is largely populated by the country's largest ethnic group, the Bamar. Beyond demography and some poverty indices, very little is known about the country from a human development standpoint - the country was controlled by a repressive military junta from the early 1960's until 2008, when a new constitution was drafted, marking a transition to partial civilian rule (United States Department of State, 2018). While the junta controls a majority of the government, newly-elected public figures present hope for a successful transition to democracy.

The colonial era and subsequent military regime were marked by brutality and abuse of the population by controlling powers. The dissolution of the original 1947 armistice between ethnic states has led to the longest running civil war in the world. In 1988, Yangon-based student protests following economic collapse lead to a violent government crackdown and sparked interethnic violence across the country. Many civilians were

subjected to imprisonment, torture, violent suppression, and murder by the government for suspicion of dissent or alternative political agendas. The threat of violence and climate of fear led nearly two million Burmese to flee for the Thailand-Burma border, with the township of Mae Sot serving as a flashpoint for a refugee resettlement crisis. Security forces from both countries attempted to control immigration through violence, and human rights abuses remain common. Burmese dissidents who fled to Thailand following the 1988 uprising reported an average of 30 traumatic events including interrogation (89%), imprisonment (78%), threats of deportation (70%) and torture (38%) with elevated depressive symptoms (38%) and PTSD symptoms (23%) (Allden et al., 1996).

The quantitative data included were collected from 2011-2012 for a trial of CETA compared to a waitlist control condition among Burmese torture survivors and political prisoners residing on the Thailand-Burma border (Bolton, Lee, et al., 2014). Treatment was conducted by lay service providers trained via an apprenticeship model, with sessions taking place in rural primary care settings within Mae Sot, Thailand. There were 71 men included in the treatment arm, with 33 (46.5%) non-completers. The results at post-treatment follow-up indicated a significant reduction in depressive and PTS symptoms within the CETA arm (Bolton, Lee, et al., 2014), corresponding to large clinical effect sizes for symptom reduction.

Colombia

Located at the northwestern tip of South America, Colombia is an ecologically diverse country with a largely urban population of approximately 48 million people (Central Intelligence Agency, 2018). Ethnically, it is largely Mestizo/White and Spanish speaking, although there are nearly 70 smaller ethnic languages and dialects (Central Intelligence Agency, 2018). The 20th century was marked by sporadic internal conflict, with country-

wide riots in the 1940's resulting in nearly 180 thousand deaths, military coups in the 1950's, and the organization of several left-wing guerilla paramilitary groups in the rural Northern part of the country - the last of which, FARC, signed a peace treaty in 2017 after nearly 60 years of armed conflict with the institutional government.

Many Colombians in the northern districts were displaced as a result of conflict between the Colombian government and paramilitary forces. The trial included here took place along the Pacific Coast in Buenaventura and Quibdó - cities that are largely populated by displaced Afro-Colombians. Data were collected for a trial of CETA compared to a waitlist control condition among displaced and trauma-affected Afro-Colombians. Treatment was delivered by lay service providers trained via an apprenticeship model, with sessions taking place in a community center or in the participant's home. A total of 175 adults were randomized to the CETA treatment condition; 15% (n=26) men, with 10 (38%) non-completers. Findings suggest that there were large, clinically significant effect sizes for reductions in PTS and depression in Buenaventura at post-assessment. In Quibdó, there was a small effect size for PTS, but no significant findings for other outcomes (Bonilla-Escobar et al., 2018).

The Democratic Republic of Congo

The DRC is one of the poorest countries in the world (International Monetary Fund, 2018), with high political instability, and ongoing conflicts in several administrative districts. With a population of nearly 80 million people (United Nations, 2017), it is a very diverse country. Though there are five recognized languages, there are more than 200 ethnic groups speaking approximately 242 local languages and dialects. Following its colonial independence from Belgium in 1960, the large country experienced civil war between several divided ethnic

states. By 1965, the country had been unified by a prominent general, Mobutu Sese Seko, who governed as a kleptocratic dictator for more than 30 years.

Political instability following Mobutu's exile and the genocide in neighboring Rwanda resulted in the First and Second Congo War, from 1996 – 1997 and 1998 – 2003, respectively. The country's government and infrastructure have never recovered from a century of colonial exploitation, governmental incompetence, and open conflict. South Kivu province, where the data for this investigation were collected, shares a border with Rwanda and is occupied by more than a dozen rebel guerilla forces in conflict with one another and the central Congolese government. Among women in conflict-affected areas of eastern DRC, including South Kivu, nearly 40% reported an experience of sexual violence in the years following the 1994 civil war (Johnson et al., 2010). Survivors of sexual violence face a range of serious mental health problems including elevated rates of PTS, depression, and suicidality (Bartels et al., 2010; Dossa, Zunzunegui, Hatem, & Fraser, 2014; Johnson et al., 2010; Verelst, De Schryver, Broekaert, & Derluyn, 2014).

The trial included in this analysis was conducted from 2010-2013, and included 405 women from 15 different villages, and compared group CPT to a general individual support control. Study team-trained psychosocial assistants from seven villages randomized to CPT were asked to identify up to 24 participants with probable PTS from their current or past case load. Findings were strong for mental health outcomes, with results indicating large, statistically significant effect sizes for clinical improvement in PTS and depression (Bass et al., 2013), as well as positive impacts on group participation (Hall et al., 2014) and decreased stigma (S. Murray et al., 2018), in both the end of treatment and six months after treatment follow-up intervals.

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Chapter 3

Thoughts Like a River – Masculinity and Mental Health Treatment Initiation for Former Political Prisoners in Yangon, Myanmar

3.1 Abstract

Men are less likely to seek care for mental health problems both domestically and abroad. This treatment gap is widened in low- and middle-income countries, where poor healthcare infrastructure, cultural barriers, and stigma impact treatment seeking. To improve the likelihood of men's successful engagement in therapy, it is necessary to identify factors that influence treatment adherence, and to better understand men's attitudes surrounding decisions to seek and initiate care. The purpose of this investigation was to explore themes of masculinity, treatment seeking, and differences between men who accepted and declined therapy in an urban low-income context.

We conducted a qualitative, interview-based investigation with 30 former political prisoners in Yangon, Myanmar who were eligible to receive mental health counseling provided by the Assistance Association for Political Prisoners. Men were initially screened

using a locally-validated composite questionnaire with items related to depression, anxiety, and posttraumatic stress symptom severity. After screening, if potential clients were identified as having probable mental health problems, they were asked if they would like to participate in the counseling program. Semi-structured, open-ended interviews were conducted with participants who both accepted and declined therapy. Those interviews were transcribed and translated by local partners, and thematically coded by the authors.

Men believed that being a community leader, self-reliance, morality, and honesty were defining characteristics of masculinity. A focus on self-correction often led to men declining psychotherapy. A general lack of familiarity with psychological counseling, and how it differed from traditional/local treatments (e.g. astrologists) was connected to stigma regarding mental health treatment. Hypotheses for reconciling societal expectations and improving engagement with mental health services to better therapeutic outcomes are discussed.

3.2 Introduction

An estimated 75% of people in need of mental health services in low- and middle-income countries (LMIC's) do not receive treatment (Vos et al., 2012). While the burden of disability for mental health problems is born largely by low- and middle-income countries (LMICs) (C. J. L. Murray et al., 2012; Vos et al., 2012), treatment infrastructure for such problems is largely underdeveloped in these contexts (Bruckner et al., 2011; Semrau et al., 2015). To address this treatment gap, research has focused on culturally adapting evidence-based interventions and training local workforces to provide mental health services in non-specialist settings (Chowdhary et al., 2014; Patel, 2009).

Despite similar prevalence of general mental health problems for men and women (Seedat, Scott, Angermeyer, & et al., 2009), men are less likely to use formal treatment for mental health problems (Susukida, Mojtabai, & Mendelson, 2015). Men are less likely to hold favorable attitudes towards care (Galdas, Cheater, & Marshall, 2005), and are more likely to drop out of interventions for PTSD (Spinazzola, Blaustein, & van der Kolk, 2005) and depression (M.E Addis & Hoffman, 2017; Primack, Addis, Syzdek, & Miller, 2010).

While these attitudinal barriers to men's engagement with mental health services have been identified in high-income contexts, the extent to which these factors are important in LMICs requires additional research. In such contexts, psychological distress among men has been associated with an increased likelihood of living in poverty, abusing alcohol, and perpetrating gender-based violence (Greene, Kane, & Tol, 2017; Spendelow, 2014). Yet, with the exception of programs for former combatants, no mental health interventions have been tested or developed specifically for men in humanitarian LMIC's (Purgato et al., 2018). Culturally adaptive approaches that improve the sociocultural fit of evidence-based treatments (Benish, Quintana, & Wampold, 2011; Griner & Smith, 2006) and

diagnostic practices (Whaley & Davis, 2007) have been successful in novel cultural settings (Bolton, 2001; Chowdhary et al., 2014). Developing therapy programs for men using similar adaptation methodologies could improve their mental health outcomes, though areas to which modifications might be beneficial (e.g. intervention materials or descriptions) remain largely unexplored.

We sought to gather information, in men's own words, regarding the decision to accept or decline mental health treatment, and to develop a general conceptual framework that examines men's decision to initiate mental health treatment. The purpose of this research was to broadly explore themes of masculinity, treatment seeking, and attitudinal differences between men who accepted and declined psychotherapy in an urban, low-income context – Yangon, Myanmar. The interplay of societal norms, attitudes towards care, and individual differences is a driving force behind service seeking behaviors (Schnyder, Panczak, Groth, & Schultze-Lutter, 2017). Formative investigations that identify mutable individual characteristics of the population of interest, as well as features of the treatments themselves, are critical to the development of treatment protocols that are better suited for engaging and retaining men.

3.3 Methods

3.3.1 Setting

Burma

Burma or Myanmar is a union of 15 administrative divisions: seven ethnic states that correspond to historical minority-held territories, and eight urban divisions that are populated mostly by the largest ethnic group, the Bamar. It has a population of 51 million

people, with roughly 70% living and working rural areas, and 30% living below the national poverty line (Central Intelligence Agency, 2018).

While Theravada Buddhism was adopted as the state religion in 1961, it has been enshrined in Burmese culture for centuries, and continues to influence everyday facets of Burmese society from its education system to folklore (Charney, 2009). Two central components of Buddhist doctrine include the Five Precepts and the Eight-Fold Path. The Five Precepts, analogous to the Ten Commandments in the Judeo-Christian tradition (Keown, 2016), are five laws that dictate a moral life. They involve abstinence from harming living things, sexual promiscuity, stealing, lying, and substance abuse. The Noble Eightfold Path encompasses the core doctrine of Buddhist practice for escaping *samsara*, or the cycle of suffering and rebirth into suffering. It consists of eight guidelines (e.g. *samma sankappa*, Right Thought or *samma vaca*, Right Speech) that serve as a means by which followers can cultivate moral and intellectual virtue (Keown, 2016) through mindful living, and ultimately, achieve *nirvana* or escape from the cycle of *samsara*.

The History and Context of Political Imprisonment

Subject to British Colonial Rule since 1824, Burma became an independent nation in 1948 in the wake of World War II. The primary architect for what was to be a unified Burma, general Bogoyoke Aung San, successfully negotiated armistice agreements with leaders of major ethnic militias to ensure peaceful transition to a single state in 1947. Aung San was assassinated by British-backed political rivals days before the armistice was to be signed, dissolving the carefully negotiated unification accords, and beginning what would become the world's longest-running civil war. Persistent open conflict between the central Burmese

government and ethnic armies in Shan, Rakhine, and other states continues to date (Lintner, 2003).

Beginning in the early 1950's, prime minister U Nu's trade policies led to a steady increase in economic progress, and near the end of the decade Burma was the fastest growing economy in the world (Charney, 2009). In 1961, the United Nations elected Burmese national U Thant as Secretary General, acknowledging the rise of what was slated to be a new power in South East Asia. However, in 1962 a military coup led to new policies of isolationism and ethnonationalism. The economic effects were catastrophic, and within a generation what was once forecasted to be the first industrialized nation in the region became the world's poorest country (Charney, 2009).

By the mid-1980's, popular dissatisfaction with the government had reached its apex. The ruling dictator, Ne Win, released a radio address in 1987 during which he mandated the abandonment of several denominations of currency to more astrologically significant values at the advice of a fortune teller (Lintner, 2003). Within two weeks, nearly 80% of Burmese legal tender would be valueless. The timing of the devaluation was such that Burmese university students would be rendered penniless days before their yearly tuition fees were due, inciting riots at the Rangoon Institute of Technology. This event led to a year of student revolts and university-shut downs, culminating in the 1988 August 8th Revolution. Students from the University of Rangoon staged political protests that shut down Yangon, with movements spreading to Mandalay and other major cities. The students were joined by monks, tradesmen, and other working groups all demonstrating in protest of the capricious and brutal government. Bogyoke Aung San's daughter and icon of the pro-democracy movement, Aung San Suu Kyi, gave her first public address to a crowd of thousands at Yangon's holiest site, Shwedagon Pagoda.

Ne Win's responded with violence. By September 1988, protests were quelled by armed riot police, many of whom opened fire on the crowds. Casualty estimates are impossible to accurately measure, but some non-governmental organizations (NGOs) posit that more than one thousand people were killed in Yangon alone in only a few days (Lintner, 2003). Students who participated in the dissemination or production of seditious, pro-democracy materials – or who were rumored to – were charged with harmful speech against the government and incarcerated.

The effects of the crackdown spiraled outward to the rest of Burma, as students took up arms against the government and joined ethnic militias in the neighboring minority states. Others, fearing continued violence and unending political persecution, fled to neighboring Thailand and other countries. Since 1986, more than two million Burmese refugees have entered Thailand alone. Formative work conducted among Burmese refugees living in the Thai border town of Mae Sot suggest that, on average, men and women surveyed in refugee camps there had experienced an average of 30 traumatic events, including torture, imprisonment, interrogation, and exposure to violent conflict (Allden et al., 1996).

Many who stayed in-country were jailed as political prisoners. Decades later, after redrafting the national constitution in 2008 and transitioning to partial civilian rule, the Burmese government still does not acknowledge that it has or has ever had political prisoners. Following the 2007 Saffron Revolution led by Buddhist monks, a second generation of political prisoners was created as the Burmese central government continued to arrest university students for participating in pro-democratic rallies. While Aung San Suu Kyi's National League for Democracy won major elections in 2015, since taking power 35 political prisoners have been convicted, 56 are in jail awaiting trial, and 235 are awaiting trial on bail (Assistance Association for Political Prisoners, 2019).

Mental Health, Services, and Impacts of Imprisonment

Exposure to traumatic events, associated joblessness, poor economic conditions, and a permanent criminal record for political dissent present highly distressing challenges for former political prisoners in Yangon, the seat of the 1988 Student Uprising. Formal mental health treatment is handled primarily by Yangon Hospital, and typically relies on poorly monitored psychotropic medication or outdated and harmful inpatient practices (e.g. isolation or confinement; Nguyen, Lee, Schojan, & Bolton, 2018). Mental health and psychosocial support (MHPSS) programs, and counseling (talk therapy) in general, are often considered novel and do not have widespread support or recognition. Community-level measures are typically limited to familial/social support, and local astrologists who rely on the traditional Burmese Zodiac to provide solutions to common problems and advice for stress management. In recent years, community-based organizations (CBOs) have collaborated with NGO's and universities to disseminate, implement, and evaluate mental health programs for traumatized populations in both urban Yangon and more rural areas (Nguyen et al., 2018).

The Current Study: Clinical Intervention and Interviewers

The interviews for this study, conducted from July - September 2018, took place within Yangon proper and in Thanlyin township at Thabarwa Meditation Center and Hospital - a yeikthar or monastery and education center providing basic medical and housing services for homeless clients. Ethics approval was provided by the Johns Hopkins University Institutional Review Board prior to data collection. A local community advisory board comprised of mental health professionals from a clinic serving Burmese refugees in Mae Sot, Thailand also approved of the interview and recruitment materials in June 2018.

The authors maintained an active working relationship with local partner the Assistance Association for Political Prisoners (AAPP) following a 2014 clinical trial for a cognitive behavioral intervention conducted in Mae Sot with Burmese refugees (Bolton et al., 2014). At the time, AAPP were forced to work in exile given their status as a political prisoner's empowerment organization. They established a headquarters in Mae Sot, where several of their staff were trained in the Common Elements Treatment Approach (CETA) (L. Murray et al., 2014), and worked as counselors as part of the clinical trial. Following primary data collection, CETA-trained staff received additional support to become trainers-of-trainers (TOT's) for the region. In 2012, AAPP opened office in North Dagon Township, Yangon, where they developed an MHPSS case-management program relying on CETA for the treatment of depression and posttraumatic stress (PTS) problems among political prisoners.

All three interviewers in this study were TOT's at the Yangon AAPP headquarters who received weekly supervision in CETA from staff at Johns Hopkins University as well as didactic training in evaluation and diagnosis. All three interviewers (two male, one female) are former political prisoners themselves. Transcription of the recorded interviews was provided by three AAPP CETA counselors fluent in Burmese. The interviewers and transcribers attended a two-day, qualitative research methods and ethics training at the AAPP office. The training covered basic principles of in-depth interviews (e.g. probing questions), as well as an introduction to the study aims and interviewing materials (see Methods section for additional details).

3.3.2 Participants

Interviews were conducted with adult men (age ≥ 18 years) as part of standard client recruitment for AAPP's Mental Health Assistance Program (MHAP). All men interviewed were former political prisoners who spent between six and 25 years incarcerated for sedition against the Burmese government. While the political prisoner community network in Yangon is extremely close-knit and protective, AAPP is well-regarded and maintains a relatively high profile in Yangon. They frequently advertise and promote its MHAP program through Facebook and other social media outlets. Many respondents subsequently self-referred based on AAPP's reputation and word of mouth. Others were friends, neighbors or former inmates imprisoned with the interview staff. No formal sampling framework was used, as the interviews immediately followed screening for MHAP inclusion criteria.

Participant ages ranged from 24 years to 72 years. While many clients were recruited from residential neighborhoods in Yangon proper, several ($N = 8$) were recruited from the Natural Meditation Center (Thabarwa Yeikthar). The meditation center serves as an urgent care center, hospice, and homeless shelter for men and women unable to afford housing or medical care. Respondents from this center were often suffering from highly stigmatized chronic disease (e.g. HIV) or debilitating conditions (e.g. stroke-induced partial paralysis) resulting in familial abandonment or isolation. Most of the men reported some employment, primarily as taxi drivers in Yangon, though all men from the meditation center were unemployed or too ill to work.

Informed consent to participate in these interviews was obtained immediately following client screening. All potential MHAP clients were screened using the same questionnaire developed for the 2014 trial in Mae Sot (Bolton et al., 2014). This locally-validated screener contained 15 items related to depression and 30 related to PTS symptoms

derived from the Diagnostic and Statistical Manual for Mental Disorders, Fourth Edition (American Psychological Association, 2000) criteria for each respective mental health problem.

Respondents reported symptom frequencies for the past month, from 0 (“none of the time”) to 3 (“almost always”). The inclusion criteria for each disorder are listed in Table 3.1. Participants met criteria for depression if either Criterion A or B was met, and 3 or more of the symptoms from Criterion C were endorsed with a “2” or “3” rating on the Likert scale. A participant meets criteria for PTS if they meet any two of the criteria. Immediately following this assessment, participants were asked if they would like to participate in the MHAP program. To explore potential attitudinal differences or thematic differences groups, interviews were conducted with both participants who accepted treatment ($N = 15$) and participants who declined ($N = 15$).

Table 3.1: Table 1: Inclusion Criteria for Depression and PTSD

Depression		PTS	
Criterion A	<i>Response of 2 or 3 on one of these items</i>	Criterion A	<i>Response of 2 or 3 on one of these items</i>
Feeling Hopeless Feeling Sad Feeling Lonely Crying Easily		Recurrent thoughts/memories of the event Feeling as though the event is happening again Recurrent Nightmares Sudden emotional/physical reaction when reminded of event	
Criterion B	<i>Response of 2 or 3 on one of these items</i>	Criterion B	<i>Response of 2 or 3 on one of these items</i>
Loss of sexual interest/pleasure Feeling no interest in things/less interest in daily activities		Avoiding activities that remind you of the event Inability to remember parts of the most traumatic or hurtful events Avoiding thoughts or feelings associated with the traumatic event	
Criterion C	<i>Total number of the following items endorsed with 2 or 3</i>	Criterion C	<i>If at least 2 of the following 4 questions have responses with 2 or 3</i>
Low energy, slowed down OR feeling like everything is an effort Poor appetite Sleep difficulties Thoughts of ending your life Worry too much about things Blame self for things OR feel worthless		Feeling detached or withdrawn from people Unable to feel emotions OR hard to suppress feelings No interest in daily activities Feeling like you don't have a future	
		Criterion D	<i>A response of 2 or 3 on one of the following</i>
		Blame self for things OR feel worthless Feeling jumpy or easily startled Difficulty concentrating Feeling on guard Feeling irritable or having outbursts of anger	

Items were derived from the PTSD Checklist (Lang et al., 2012), the depression subscale of the Hopkins Symptom checklist (Mollica, McDonald, Massagli, & Silove, 2004), and locally-derived items from previous formative work (Haroz et al., 2014)

3.3.3 Interview Procedures

The interviews themselves followed a semi-structured rubric with open-ended questioning. The original IRB-approved interview materials are provided as supplementary materials in Appendix A. Interviews lasted between 30 and 60 minutes. To discuss participant recruitment strategies, assess interview fidelity, and discuss interview themes, the primary author facilitated weekly group supervision meetings with all three AAPP counselor/interviewers. In these sessions, the interviewers described one or two of the interviews they had conducted in the past week, the content of those interviews, what questions from the interview were well-received and which did not yield rich responses from their clients. These conversations shaped subsequent interviews, as questions were added or removed from the semi-structured prompts depending on interviewer feedback. After transcription by AAPP staff, the subsequent anonymized transcriptions were translated into English by two non-AAPP professionals in Yangon.

Data collection and analyses procedures were rooted in two qualitative methodologies – constructivist grounded theory (Charmaz & Belgrave, 2007) and more general thematic analysis (Hennink, Hutter, & Bailey, 2010). Grounded theory-based approaches are well-suited to developing theoretical frameworks that explore a specific phenomenon (i.e. accepting or declining treatment), and to provide a broader sense of factors that motivate or shape that phenomenon (e.g. masculinity, barriers to care, perceptions of treatment, etc.). Theoretical sampling and in-vivo coding could not be adhered to strictly given time, translation, and resource constraints. However, clients and counselors were consulted regularly for insight into improvements in recruitment and data interpretation procedures. Initial coding of some interviews and identifying thematic content

was conducted in the field when possible, with feedback from the interview staff regarding emergent themes. These themes in turn modified the interview process and data collection.

Given the difficulty of translating multiple interviews with precision in a short amount of time, the primary coding for a majority of the interviews was conducted after the author returned from the field. For thematic analysis, the transcripts were coded, organized, and analyzed using Nvivo version 12 (QSR International Pty Ltd, 2018). The overarching thematic codes, derived with help from the interview staff, served as an initial guide for data interpretation. After an initial reading of an interview, the author coded each transcript line-by-line to explore subthemes and examples, and to further develop the initial umbrella codes, i.e. conceptualizations of masculinity within the sample, descriptions of primary stressors and coping mechanisms, and reasons for accepting or rejecting psychotherapy.

3.4 Results

Results are presented here by primary theme, with subthemes listed and described by section. Themes, subthemes, and brief summaries/examples are displayed in Table 3.2.

Table 3.2: Outline of thematic content with subthemes discussed

Theme	Subtheme	Example
<i>Participant Ideas on Masculinity</i>	Honesty & Morality	Five Precepts
	Breadwinning	Being the primary earner in a household
	Leadership	Strong, helpful presence in community
	Self-Reliance	Problem solves without outside help

<i>Problem Areas</i>	Money and Work Stress	Unable to provide for family despite long hours
	Loneliness and Isolation	Abandoned by family
	Illness and Physical Health	Unable to move easily due to paralysis following stroke
	Post-Incarceration Issues	Can't find work due to political prisoner status
	Anger, Rage, and Frustration	"exploding" when too stressed
<i>Coping Strategies</i>	Drinking/Problem Drinking	Getting drunk and "exploding," drinking to let off steam
	Establishing routines, exercise, and socializing	Talking with friends, exercise, chores
	Religious Activities	Meditation, visiting pagodas
	Political Involvement	Journaling, reading about political theory, involvement in politics

Masculinity

Honesty and Morality were the most commonly cited core characteristics of masculinity among interviewees ($n = 21$; 70%). The definition of morality and honesty were commonly based on the Buddhist Five Precepts. “An Honest Man” was often mentioned as the ideal. While honesty was related to “not ly[ing],” it was also related to living in a forthright and plain manner, someone who is “righteous, [who does things] without discrimination...He must be able to decide fairly, and speak up if [something] is good or bad. He shouldn’t nod for a bad thing if it is good; he needs to justify. He must speak the right thing without cheating. Even his inner mind must be righteous.” Righteousness and having a “a good

moral spirit” were often predicated on following the Five Precepts, often verbatim. There were particularly strong feelings against the use and abuse of alcohol and drugs, despite the simultaneous frequent mention of drinking with friends and getting drunk as a coping mechanism for psychological distress (see Coping section below). One participant mentioned nearly four of the precepts – abstinence from alcohol, stealing, lying and harming living creatures – in almost a single phrase, stating that “to be a gentleman, one must have good morality. For example, he must not lie or steal. He must be humane, and have a spirit of volunteering...In addition, he must not drink...” Only one participant mentioned “not mixing with women,” because they “should do their own business.”

While the Five Precepts are not inherently gendered, men commented on the belief that “[Myanmar] has the concept that men are better and more noble than women,” even though the moral “checklists are not supposed to be ‘this is for men’ or ‘this one for women.’” However, based on these responses, it seems that Burmese men believe there is a greater expectation to be models of morality and that they are the ones to uphold these Precepts.

Breadwinning emerged as a core feature of Burmese masculinity ($n = 10$; 33%). One interviewee succinctly explained, “A man is someone who needs to support income for his family...When their wife is making money, I don’t consider that kind of person as a man.” Spending time away from one’s family while incarcerated added an extra dimension of urgency for some participants. As one explained:

As I was away from my family for a very long time [while in prison], I have the feeling that I have the responsibility to take care of my family as much as possible. When I got back [home], I saw that my family’s living was not in good condition, so I had to try so hard to fill that blank.

While being the primary economic support in a household is a common feature of traditional masculinity (Mahalik et al., 2003), there appears to be added pressure to provide economically among these respondents given their status as former political prisoners.

Being the primary earner in a household is intrinsically linked to the idea of *leadership* within a community for men ($n = 15$; 50%), as is his ability to provide thoughtful, measured solutions to difficult problems. “As ours is Myanmar Buddhist society, [a man] is defined by how much he can follow the moral and ethical rules conducted by society, and to what extent he can serve his family and his community,” said one respondent. “Just like the Myanmar saying, ‘a big tree is home for a thousand birds.’” This sentiment – that men should serve as foundational pillars within a community and family – is furthered by the belief that leadership is a necessary facet of masculinity among the men interviewed. A man is “defined by how much he can follow the moral and ethical rules conducted by society, and to what extent he can serve his family and his community,” according to one participant. Leadership was in turn defined as “doing things bravely in front of other people,” and taking “responsibility and accountability.” Leaders are responsible for addressing prominent issues and advancing an agenda, and not moving “crabwise,” as one participant described it. “There are some in the neighborhood who are neither leading from the front nor following behind, but moving crabwise,” he said, “He should lead from the front if there is something urgent and take to it right away.”

Indeed, one’s ability to actualize and perform duties related to community needs was directly related to the quality of his character, such that indolent or non-active men were seen as morally deficient:

If the person uses [his past] knowledge and experiences for the welfare of his family and his community, he will be a useful person. If the person does not or is not able to use them, that person will be useless and maybe he will have a negative effect on the community.

This judgement regarding one's value as measured by his utility is a key feature of the subtheme of *self-reliance* ($n = 18$; 60%) – men are expected to individually resolve their problems and disputes without outside help. Issues of mental health are no exception, as one participant noted: “When the problem is dealing with mental health, it needs to be fixed by yourself first. After you have fixed it yourself, you can create good works in your environment.” Another respondent summarized the process of internal change as a process of mental fortitude and will. “I have just such a kind of tough mind. I think it's all related to mentality. Willingness: when you are not able to walk on your own, you need willingness to be able to walk.”

Several respondents were quick to note that this can often translate into stubbornness or closed-mindedness, but there was a pressure for men to appear in control and not to “explode,” or demonstrate an inappropriate level of anger or sadness. “I don't think they will accept [mental health services]. Some [men] are really stubborn. I try to persuade them to concentrate on other things instead of exploding their anger, but they don't listen,” one man who refused counseling said. According to another respondent, “men suffer more than women [because] they are strong-minded in nature. So they more easily lose their temper, and explode more violently. They might feel sad, and more depressed than women.” Intense emotions are suppressed by men's “strong-minded nature” and stubbornness, and men subsequently “go nuts” or “explode.”

The fear of appearing weak or vulnerable instead of self-reliant was enough to keep men from seeking help. “I'm not the type to depend on others,” one respondent who accepted therapy said, “I want to stand on my own two feet. I feel guilty relying on the support of others.” There was a common refrain among men interviewed that everyone “has

their own problems.” The same respondent went on to clarify that each man “has the feeling that ‘we must’ whether we want to or not. We also know that we have fewer choices and we must work.” The tension between duty, self-reliance, psychological distress, and pressure to maintain standards of moral character were suggested to create intense pressure to maintain a specific portrait of masculinity among the men in this study. These characteristics, particularly self-reliance and leadership, may be at odds with the perceived nature of psychological care.

Problem Areas

Men described several problems that they believed contributed to the experience of psychological distress and more severe mental health problems. *Money and work-related stress* were by far the most commonly cited among the men interviewed ($n = 18$ men; 60%). Men believed that lack of money, poverty, poor work scheduling and lack of available jobs was often the single contributing factor to poor mental health outcomes. Men’s employment situations were often a combination of odd jobs and driving a taxi. As such, the cost of operating the vehicle compounded work-related stress. According to one driver who declined therapy:

I need to have at least five to ten thousand kyat to leave the house. As it’s even harder to get gas and owner fees, I feel demotivated. I have to drive every day even though I don’t want to. It is impossible to take a day off one day and earn it back the next because every day the situation is the same. If I decide not to drive anymore, I don’t know what I’m supposed to do for a living. That’s why I feel depressed and demotivated to work every day.

Driving or borrowing money produced additional distress from additional expenses. “It’s about debts,” one man who declined therapy said. “Paying back debt is always in the back of my mind. This is worrisome. Why can’t I break even, even though I’m earning under the hot sun? That is one thing I feel is unbearable. Next, is rising commodity prices. That’s about it.”

Another respondent stated that for families, “problems come one after another when there is no money. As the head of a family, [one] might use both good and bad ways to solve those problems. That leads someone to feel stressed and suffer from mental problems.”

Loneliness and isolation ($n = 14$; 47%) were significant problems for men as well, especially among those living in the meditation center where joblessness and lack of familial support were particularly widespread. Isolation was described as both a cause and effect of mental health problems. People with untreated mental health problems become “angrier, and avoid other people...If they can’t overcome those problems, they run away from their family or their environment,” according to a participant who accepted therapy. Similarly, another participant from the meditation center mentioned that “the main reason” for his mental health problems was “not having family.” He went on to say that he “env[ies] people with families...I don’t have that blessing, but I don’t cry. I am amazed to see children crying – they are just spoiled because they have parents. Since I don’t have parents, I don’t know that feeling of being spoiled. I don’t know how to cry.”

For many at the meditation center specifically, isolation and loneliness were closely linked to *illness and physical health problems* ($n = 11$; 37%). A participant who had experienced a major stroke that left him partially paralyzed had been abandoned by his family due to his physical handicaps and stigma associated with the after effects, described his experience saying:

I feel lonesome. I feel small. I don’t want to go anywhere because of the symptoms from this stroke. I am ashamed of limping. I tried to erase this thought – there are a lot of people like me. When I saw people on crutches, I told this thought to myself again. We all have similar feelings.

Heavily stigmatized conditions (e.g. HIV or physical deformities) were particularly stressful. Not being able to “get around properly,” not being able to be “active...like I did in the past due to my age,” or not feeling well because of stress from “daily living” were all mentioned

as exacerbating mental health stress from work and isolation, and limiting coping strategies such as exercise or performing household chores.

This sample of interviewees was unique among other Burmese men in that all of them faced periods of incarceration for political dissidence. Many respondents described daily problems that affect mental health stemming specifically from their *experience of being a political prisoner* ($n = 10$; 33%), or the after-effects of the experience. Several respondents felt as though the burden of having to provide economically for a household following their release from prison was too difficult in the face of prolonged absence:

I am not talking about people who have severely broken mental conditions; this is about people who have normal mental conditions. That normal person was released [from prison] and found that his family was in chaos, so it had a strong negative impact on him. Moreover, he had problems with the guardians who had taken care of his children when he was in prison. He knew the unavoidable fact that the guardians looked after his son with pure love, but he denied it unconsciously. He did not get on well in relationships with other people. He got angry about everything happening. In politics, the things were happening in a different way than he expected or wanted...When he faced more problems beyond these dissatisfactions, it turned into big social problems like fighting or quarreling. It affected his health conditions, damaging his nerves so he forgets things or can't concentrate anymore. Because of these problems, even the people around him, like his family and relatives, couldn't help him and he became like an outsider. There are people like this.

Others expressed the feeling that they were losing work due to their politically-charged criminal record, or that the government was continuing spy on them and that that was interfering with their work abilities. One participant believed he was turned down from a job working at a public library because of his “political profile.” He went on to say that he felt as though he would never get a job despite “doing and living without individual mistakes or political mistakes in my life. I can’t think who or why they are doing this to me.” When asked how this made him feel, the respondent stated that he does “not feel anger, but I [feel that I] am nothing and I can’t do anything.”

Being a political prisoner was stigmatizing in social contexts as well. “The people who promised to help me when I was in prison didn’t help me actually. I don’t have a quick

temper by nature, but I felt frustrated. I...struggled a lot to stand on my own.” Another respondent who accepted therapy spoke more broadly about the role of the current political regime, saying “For people like us, our stress doesn’t come from our personal affairs. Our stress is the result of the inhumanity and strong suppression done by the military junta. That is why we suffer more.”

It is worth mentioning that men often described their distress in terms of *anger*, *frustration*, and *rage* ($n = 12$; 40%) rather than terms associated with depression or anxiety. When one man, employed as a taxi driver, was asked how he felt when work was slow and he was losing money, he said he replied “unbearably angry, but I can’t help it. I have to drive seven hours that day instead of five.” This type of anger was associated with “exploding” from pressure or “letting go of [one’s] mind.” This type of anger leads to rash decisions and violence among men, according to one respondent. “Anger leads to violence without considering the consequences...When people are in anger, their madness turns into physical attacks. Then, they have to face what they did.”

Coping Strategies

The most common way of dealing with stress from the problem areas described above was *drinking* ($n = 17$; 57%). Despite the emphasis on abstaining from alcohol in the Five Precepts and in men’s own descriptions of what constitutes highly-valued moral behavior, most men mentioned using alcohol to manage problems. There were two types of drinking described - social drinking and problem drinking - each with their own social acceptability and mores. Social drinking was much more acceptable, and was described as more of a means by which men can more acceptably gather in the same place (i.e. a bar or teashop), drink beer or liquor, and commiserate with one another. As one respondent who

had recently broken up with his girlfriend described, he and his friends went to nightclubs to “get drunk and solve the feelings from the break-up,” he said. “Friends come to my house, then we go out for drinks, go to the nightclub. I’d say ‘Bro¹, I’m so sad!’ ‘Little bro, don’t worry. I have also faced this...don’t take it too serious.’ Such kinds of encouragement are common between bros.” Another respondent stated that since most of the country has to do physical labor, men drink to “reduce their physical pains and aches.” As such, drinking was used more as a way to relax and help them sleep. He went on to say that there are also men “who drink because of psychological factors. They don’t know they are hurting mentally, thus they drink... to change their mind...They cure their mind this way I think.” A participant who declined therapy stated that he believed drinking with friends allowed him to play the role of a therapist for his friend and vice versa. “He drinks one cup [of rum] and says to me at that time he felt completely unsafe; that he and his wife were in about 100 million [*kyat*] of debt...Then he told me everything from A to Z. I feel like I’m doing counselling. He used alcohol to burst out that he was facing a problem.”

Problem drinking or drinking to excessive inebriation, however, was held in a mixed to negative regard, and considered aberrant or embarrassing behavior. “Honestly, there is no one who solves his or her psychological problems properly in our country...They drink because they feel something bad. I don’t know whether drinking alcohol reduces stress or not, but they use that as a way to escape stress and mental problems,” according to a man who accepted therapy. Men reported a distinct link between being intoxicated and increased likelihood of “exploding” into violence or outburst. One respondent recalled a night of

¹ Translation note: this is an English slang translation of the Burmese honorific used when addressing younger men, *maung*, မောင်, which often translated as “little brother.” It is often used as a term of endearment or familiarity between male friends.

drinking with his friend who drank when too stressed, recalling that “he couldn’t stand anything because he was too stressed and drunk, so he hit and broke a bottle and stabbed [somebody] with it...” Men were aware of societal pressure to not drink alcohol, but brushed it aside as an issue of self-control – “people may tell you not to drink though only you can stop drinking.” It seems that drinking and problem drinking have multiple facets to coping for the men interviewed. Alcohol itself helps for physical relaxation and sleep problems, going to bars with friends is prosocial and allows for an appropriate social venue to discuss problems, and drinking to intoxication can lead to physical violence and emotional outbursts that, according to one respondent serve as “their outlet” for “negative attitudes towards the people who are trying to [help them] for their own good.”

Establishing routines, exercise, and socializing with friends ($n = 16$; 53%) was a common strategy for coping with stress as well. Going for walks, taking exercise, or busying one’s self with household task like cleaning were all mentioned as was to help balance stress. Talking to friends to “encourage each other” was also good for dealing with stress. Some men played music or sang karaoke, “exploding [their] feelings with music.” One participant who declined therapy believed that men rarely felt like they had someone who would listen to them but were still open to sharing feelings when asked –

Some might think that they are angry and explode. Actually, it’s not like that. They open up their true feelings...They open up to me, feel relieved and considered that they found someone who share the same heart with them. I am happy to see them feeling better too. I think this is a kind of counseling.

As another interviewee stated, “it is best to have friends who can enlighten you.” He qualified his statement, however, saying “it is the best to rely on one’s self and be good a good person. If they cannot correct themselves, the need to have good friends who will guide them to the right way.”

The desire for self-correction is firmly rooted in Buddhist principals and *religious activities* related to Buddhism were cited as coping strategies ($n = 13$; 43%). Meditation, breathing exercises, and being in religious spaces (e.g. traveling to pagodas or shrines) were all mentioned as strategies to control stress. Elements of Buddhist practice and counseling were considered similar by participants familiar with the principles of MHPSS programs. One participant who refused mentions that “although people don’t know it as counseling, [helping others find understanding] has been done in Myanmar’s culture, too. As we are Buddhist, we help and take care of each other.” Others believe that local *nat* festivals – raucous religious parades that involve wild dancing, loud music, and pervasive drug and alcohol consumption – were a chance to “show off their emotional behavior...They just want to show their emotions.”

Older men interviewed maintained deep *dedication to political activism and involvement* ($n = 5$; 16%), and held that study of political science and writing political essays was a powerful coping strategy developed in prison. One political pundit interviewed had spent decades in solitary confinement for his beliefs stated that “work is the only way out. I take a position in politics and I concentrate on that.” Another respondent with a similar experience of incarceration believed that the nature of political discourse – responding to criticism, holding multiple ideas in one’s mind, and formulating arguments – helped manage stress and psychological problems:

In politics, we’re used to getting serious criticism...Young men feel poorly about criticism, but for people like us – we have been struggling in this field for several years. 1) Is [this criticism] the truth or not? If it is the truth, should we change or follow according to what they say? That is not so difficult; 2) If it was wrong...we have to continue. We don’t have any worry about people criticizing us. We look at it a different way...We listen to what they are saying [and we] consider it even if it comes from our enemy...We don’t have the a philosophy of negligence regarding our enemy’s commentary.

One respondent believed that the balancing act of being a politician could apply beneficially to other areas of life as well: “getting a stiff neck, checking blood pressure to know whether I have hypertension...It’s all about balancing. The politician always needs to balance himself, and I do this as well.”

While coping strategies varied substantively, there is a broader theme of utilizing social support through talking to friends and relying on internal change on one end of the spectrum, and “exploding” with rage or negativity through violence or alcohol abuse on the other end. Engaging the mind - through dedication to philosophy, staying busy with behavioral tasks like cleaning or walking, or meditation – was highly valued and emphasized the self-reliance that was praised by the men interviewed.

Accepting and Declining Therapy

Across all 30 interviews, men were asked why - in their own words - they decided to accept or decline therapy. These findings are presented by whether or not men accepted or declined the intervention.

Men who Declined

Given the aforementioned emphasis on self-correction and self-reliance, men often declined because they were dealing with their problems reasonably well on their own and did not believe psychotherapy would be beneficial on top of their own efforts. Men’s descriptions of plans to manage stressors were often tautological or terse – “I address...everyday tasks by solving [them]. If I need to write, I write. If I need to discuss, I discuss. If I need to attend a meeting, I attend. That’s all.” Another participant simply said, “When the problem is dealing with mental health, it needs to be fixed by yourself first...If

you do good things, you will be good. If you do bad things, you will be bad. That's it." The belief that men are expected to solve their problems on their own was summarized well by one respondent, who said:

Men mostly don't take psychological treatments – they believe too far in the tradition that men are heads of the family, and whatever they do is right. That's why they don't easily accept if they have mental or physical problems and moreover, they don't evaluate themselves, and they are hard to change.

Others believed that Burmese people were concerned with not "giv[ing] their problems to others" and increasing suffering in their community. "I have my own problems, and everyone has their own problems," said one respondent, a taxi driver. "Physically, we might struggle to control our anger and fight with others. Mentally, what we have suffered only concerns our own minds." This sentiment, that what happens in the mind is limited to the confines of the mind and is the burden of the individual, underscores the conflict between self-reliance and treatment seeking – if thoughts and feelings are the responsibility of the individual, to what extent could the involvement of an unfamiliar third party be beneficial? "That's why I refuse counseling," one respondent said, "I don't really want to change myself with the help of others. That's my belief. I'll change myself. When you get counseling, you have to follow their advice."

Not having time for therapy, or needing to work was also a frequent reason for declining participation. There was a sense that an hour spent in treatment was an hour better spent working - "I can make 15,000 – 20,000 *kyat* during this time...A man has to give priority to making money, so I must refuse counseling." Another respondent mentioned that he was personally interested in receiving counseling, but "I can't give time for [it], although you are willing to provide it." Some were also wary of taking time off work for something that amounted to "30 minutes or an hour to meet up with each other, open up all our sufferings, make small talk, and relieve our feelings. After that we go on our way and work."

Finding even an hour to commit to therapy was decidedly difficult, as unpredictable economic and employment situations render scheduling impossible – “You know my situation, right? Everything is unstable for me.”

Many men mentioned a lack of familiarity with counseling or with the cognitive behavioral approach offered as another reason for refusing. Men “don’t know what a counselor is, or what counseling services are. They think that counselors are just like anybody else because they don’t wear uniforms like lawyers or soldiers. Counselors are nothing – most of our citizens think like that.” As described above, most men are comfortable seeking community-level social support from their friends and sometimes families, so the role of a counselor or counseling in general is unclear. Many men reported being “unclear” about what CETA offered specifically even after an introduction to the program.

At the same time, the role of a counselor was viewed as overlapping with local astrologists – experts in the Burmese Zodiac who are often consulted to manage stress from family and work problems. “We have our own superstitions, whether they’re real or not,” one man said. “[People] go to a fortune teller (*nat sayar*) or astrologist. We get help from those kinds of things.” Another participant added that astrologists are “quite good at making someone relieve their stress, and help concentrate on other things.” He added that there is still a need for “scientific and realistic mental treatment in Myanmar.” Astrologists are chiefly consulted by women and girls, according to the respondents. It is conceivable that lack of familiarity with counseling, little understanding of the differences between counseling and traditional methods, and the assumption that similar community services are primarily for women contributed to men’s abstention from the intervention offered.

Men who Accepted

Men who accepted the intervention also cited a self-correction priority in addressing mental health problems, but with the additional belief that input from a third-party would allow for personal development and a greater likelihood of improved well-being. “I have noticed myself and I don’t know what is happening to me,” one participant mentioned. “I’m over 70 years old and I need some support.” Another participant pointed out that he “can tell what is on my mind and...the things happening in my surroundings...Counseling is a higher psychology that I can’t reach. It digs down to a deeper question, and if I can get there, I can get much more knowledge. I will be motivated, and be able to raise my life from this experience.”

These additional components, interest in improving well-being and more general internal curiosity, were the most commonly mentioned reasons for entering treatment among men interviewed. While this is a self-evident explanation to a certain extent, it is worth mentioning as it is still couched in the desire to be self-reliant. While men who refused treatment believed that accepting help from a third party was unacceptable or unhelpful, men who accepted the intervention believed the opposite – that outside help would allow for an improved ability to be self-reliant.

Self-improvement was related to symptom reduction (e.g. “I hope to get some advice on how I should think and behave to relieve my feelings”), improving “motivation” (e.g. ...I can be psychologically motivated by counseling...), and most commonly a belief that improving one’s mental health would help the individual better serve his community. Men who accepted therapy believed that through being vulnerable, one would “start to think of doing merit for the community.” While both men who accepted and men who declined therapy stated that everyone in their community was facing the same kinds of problems (e.g.

economic, work-related, family stress, etc.), men who accepted the intervention qualified that statement by adding that men “need to be dutiful” to their community, and that through therapy men can “benefit [their] community.”

3.5 Discussion: Treatment Engagement in Context

The purpose of this qualitative study was to explore motivations for accepting or declining treatment within a sample of men in a low-income, urban context. We conducted interviews with 30 former political prisoners based in the Yangon region of Myanmar in collaboration with a local NGO conducting mental health interventions in the area. We used grounded theory-based thematic analysis to identify conceptualizations of masculinity, problem areas, and coping mechanisms for the men interviewed. Those results informed an analysis of potential differences between men who accepted and men who declined mental health treatment. This study was limited in that the interviewers responsible for primary data collection were all trained mental health professionals. This is a potential source of bias, as they are all actively supportive of the intervention being used, and may have more readily encouraged participants to engage in mental health services. Interviews were conducted after a client refused or accepted the intervention however, and no clients reversed their position during the course of a follow-up interview or immediately following one.

All men interviewed were fairly consistent in their depiction of a masculine ideal as someone moral, forthright, honest, and self-reliant. There were also few differences in the types of coping strategies and problem areas described between men who accepted and declined therapy. The primary coping strategies were drinking, socializing with friends, establishing routines, religious activities, and political involvement. The main problem areas

were money/work related stress, isolation, health problems, post-incarceration issues, and anger or rage.

Self-reliance, poverty, and familiarity with the mental health problems and treatment were all important factors that informed treatment decisions for male former political prisoners in this sample. There were several examples of men distinguishing what they believed to be expected outcomes associated with stressful living circumstances, and true mental health problems. With so many men experiencing the same issues, the reported societal expectation was that a man must resolve these issues on his own. Lack of perceived need - believing that one's condition does not warrant specialized treatment - is a common mental health treatment barrier for men in other settings (Mojtabai et al., 2011; Susukida et al., 2015), and it appears to persist in this sample as well. It is also related to the most significant differences between men who accepted and declined the intervention. Men who accepted and declined both described the importance of self-reliance, yet men who accepted treatment saw the opportunity to work with a third party as a way to become more self-reliant rather than as a hindrance to that process. Men who declined believed that counseling was akin to being forced to follow someone's advice, whereas men who accepted believed they would ultimately be gaining new coping skills through professional guidance. Improving men's engagement with mental health interventions might begin with presenting counseling as a means of enhancing self-control through skills, or as a means to practice self-control and manage problems more effectively as an individual.

Masculinity is likely related to treatment initiation, particularly via self-reliance, yet treatment decisions were made based on a range of other considerations beyond masculinity. Masculine identity and the extent to which men endorse specific masculine traits can vary contextually, particularly in treatment seeking contexts (Courtenay, 2000). In formulating

their decision to opt in or out of treatment, men may identify more strongly with certain aspects of masculinity than others, increasing or decreasing the likelihood of treatment initiation and care seeking (Addis & Mahalik, 2003; Courtenay, 2000). Depending on their understanding of the presenting problem (e.g. its prevalence, characteristics of care providers associated with such problems), specific aspects of a masculinity schema may drive men to be more or less likely to enter care (Addis & Mahalik, 2003). In this study, men who accepted and rejected treatment did not describe the principals of masculinity in different terms. Both men who accepted and declined often referred to the same structural (e.g. work commitments) and attitudinal (e.g. lack of familiarity) barriers. Men who accepted counseling seemed to be more interested in internal change, more curious, and potentially less concerned with the novelty of counseling or the perceived stigma associated with mental health problems.

While certain elements of participant responses are unique to the sample, the reported importance of self-reliance, leadership, and providing for a family are not limited to masculinity in Myanmar (e.g. Mahalik et al., 2003). Understanding the role of men in novel contexts, and how masculinity interacts with other culturally-rooted idiomatic factors (e.g. morality, familiarity with/understanding of counseling) is critical for improving strategies for both recruitment and retention in MHPSS programs for men. Future research might build on formative work that explores men's beliefs and expectations regarding counseling, as well as idiomatic understandings of masculinity that may differ from traditional or stereotypical features.

Addressing masculinity as a cultural factor in mental health research may extend beyond adjusting the content of a given intervention to more readily suit men. Indeed, it may be more helpful to reconceptualize how men are approached, recruited for, and informed

about MHPSS programs. Men's lack of familiarity, biases regarding similar traditional practices, and desire to be self-reliant while simultaneously serving the community could be integrated into dissemination and implementation practices that might better address men's concerns regarding mental health interventions.

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Chapter 4

Gender as a moderating factor for intervention completion in low-income contexts: Identifying modifiable factors for treatment adherence

4.1 Abstract

Background: Research from high-income countries suggests differential engagement with mental health treatment between men and women. The extent to which this pattern exists in low- and middle- income countries (LMIC) is largely unexplored. The purpose of this investigation is to explore the potential moderating effect of gender on the likelihood of intervention completion in mental health treatment trials from five LMICs.

Methods: Data from randomized controlled trials across five regions – Iraqi Kurdistan, Southern Iraq, Colombia, the Democratic Republic of Congo, and the Thailand-Burma Border - were aggregated into a single database. The trials evaluated three evidence-based mental health interventions: Cognitive Processing Therapy, Behavioral Activation, and the

Common Elements Treatment Approach. Hierarchical logistic regression was used to model the likelihood of treatment completion. Subsequent step-wise analyses were conducted to examine the stratified effect of gender.

Results: Women were more likely than men to complete interventions (aOR = 1.17, 95% CI = 1.04 – 1.32). In the gender-controlled model, higher depression was associated with 22% reduced odds of treatment completion (CI = .65 - .93), whereas elevated posttraumatic stress was associated with a 52% increase in odds of completion (CI = 1.00 – 2.30). In an interaction model, gender*depression was highly significant (aOR = 2.11, CI = 1.17 – 3.79). Subsequent stratified analyses indicated that men were 52% less likely to complete treatment given higher depression scores (CI = .25 - .92). This effect was not present among women. Older women (>50 years) were nearly twice as likely to complete treatment than the younger women (CI= 1.11 – 3.38).

Conclusions: There are significant differences between men and women regarding individual factors associated with mental health treatment completion. As mental health and psychosocial services are adapted, tested and scaled in low-resource contexts, efforts to boost adherence should focus on the interaction of gender with mental health status and age – paying particular attention to highly depressed men and younger women.

4.2 Background and Significance

Globally, men and women experience similar rates of common mental health problems (Kessler, Chiu, Demler, & Walters, 2005; Wang et al., 2007), though there are notable differences in the types of mental disorders experienced, and in subsequent treatment seeking behaviors (Andrade et al., 2013; Buffel, Van de Velde, & Bracke, 2014; Han, Hedden, Lipari, Copello, & Kroutil, 2015; Seedat, Scott, Angermeyer, & et al., 2009; Susukida, Mojtabai, & Mendelson, 2015). Large population-based studies suggest similar sex differences in the incidence of common mental health problems in low- and middle-income countries (LMIC; The World Health Organization World Mental Health Survey Consortium, 2004). However, in socio-culturally diverse settings, gender norms may have differential effects on mental health outcomes. While men and women suffer higher rates of externalizing and internalizing disorders respectively, the rate of depression specifically was found to be more similar in non-Western cohorts where adherence to traditional gender roles was less prominent (Seedat et al., 2009). This suggests that gender differences in the experience and prevalence of mental health problems is attributable in part to gender acculturation. Further research that investigates how gender role differences in the experience and subsequent treatment of mental disorders could improve treatment engagement with services in LMICs.

Given the lack of available mental health services in LMICs (Patel et al., 2007; Saraceno et al., 2007), service use research for those contexts is similarly scarce, though available data suggest that as many as 75% of individuals in need mental health services do not receive treatment (Vos et al., 2012). In such contexts, where the burden of mental health problems is highest (Kohn, Saxena, Levav, & Saraceno, 2004), focused investigations of

barriers to mental health treatment engagement warrant consideration. This chapter examines potential treatment engagement differences by gender.

In addition to structural barriers to care seeking in LMICs (e.g., lack of care providers or healthcare infrastructure, lack of funds), attitudinal and cultural barriers can significantly impact the likelihood of engaging with mental health treatment (Andersen, 1995). Attitudinal and cultural barriers, gender, and gender norms are important factors to consider. Evidence suggests that women are more likely than men to seek treatment (Charlson et al., 2016), likely as a result of gender role socialization and societal role expectations (Addis & Mahalik, 2003). Men are less likely than women to hold favorable attitudes towards seeking medical care (Berger, Addis, Green, Mackowiak, & Goldberg, 2013), and less likely to use formal assistance for psychological problems (Möller-Leimkühler, 2002; Spendelow, 2014). Evidence suggests a negative relationship between endorsement of masculine norms, and both the likelihood of favorable help-seeking attitudes (Addis & Mahalik, 2003; Berger et al., 2013; Galdas, Cheater, & Marshall, 2005) and presenting for psychotherapy (Primack, Addis, Syzdek, & Miller, 2010).

While research has shown that psychotherapies that are adapted to suit a given context are more effective than non-adapted versions (Benish, Quintana, & Wampold, 2011; Griner & Smith, 2006), intervention adaptation in LMIC contexts has largely focused on adaptations related to who provides the intervention. Specifically, adaptations have been made to promote the use of task-sharing strategies that utilize trained and supervised, non-specialist, community members as facilitators for protocols to address the lack of specialized mental health staff in LMIC (Becker & Kleinman, 2013; Bruckner et al., 2011; Patel, 2009). Adaptions are commonly made to suit language, cultural competence to increase engagement, treatment format (e.g. group or individual therapy), and MHPSS background of

the practitioner providing services (Chowdhary et al., 2014). However, many of these interventions have not focused on how these interventions could be delivered to different groups within the same cultural context, such as for men and women within a given community. In randomized trials of such interventions, researchers have reported issues with recruiting and maintaining men in studies (Basoglu, Şalcioğlu, & Livanou, 2007; Bolton et al., 2003; Bolton, Bass, et al., 2014). Exploring if and how gender may act as a barrier to mental health treatment completion could help identify modifiable program characteristics that might help increase individual engagement with psychotherapy.

The purpose of this investigation is two-fold. First, we sought to identify individual characteristics related to mental health treatment completion for men and women in a multinational sample of participants with mental health problems who participated in clinical trials of psychotherapy in LMICs. Second, we examined the potential moderating effect of gender on individual characteristics and treatment completion in the same sample, and explored differences between genders in individual characteristics associated with treatment completion. This investigation seeks to broaden the scope of mental health program adaptation to include potential gender differences related to intervention completion.

4.3 Methods

We conducted an investigation of individual-level characteristics associated with intervention completion to examine the potential effect modification of gender. The dataset used was compiled from randomized controlled trials conducted in five different LMIC regions – Iraqi Kurdistan, Southern Iraq, Thailand, the Democratic Republic of Congo (DRC), and Colombia. The compiled dataset was assembled, harmonized and cleaned as part of a secondary data analysis investigation (Bass; R01MH105450) to examine moderators of

treatment efficacy in LMICs. The full trial database includes 1,721 individuals – 764 in control conditions, 957 in treatment across baseline and follow-up time periods. Follow-up periods varied by intervention trial but averaged between three and four weeks after completion of the respective intervention. Given the focus on treatment completion, the analysis sample was limited to the treatment arms of each trial ($n = 957$ individuals).

Interventions Included

The trials included were conducted from 2009-2013 and encompassed three different psychological interventions: the Common Elements Treatment Approach (CETA), Behavioral Activation (BA), and Cognitive Processing Therapy (CPT).

CETA is a transdiagnostic mental health intervention developed to be readily adapted to suit the needs of low-income contexts (Murray et al., 2014). Similar components-based methods have been implemented and tested successfully in the United States (Chorpita, Daleiden, & Weisz, 2005). Sessions are structured modularly so that counselors can be trained to choose the order, number, and content of sessions depending on what symptoms a given client describes. Content for sessions includes evidence-based approaches to managing anxiety, depression, substance use problems, and PTS symptoms.

BA is an element of many evidence-based treatments for common mental disorders, and was included here as a standalone intervention for depressive symptoms. It relies on activity scheduling, time management, and mood monitoring to increase the number of positive interactions encountered per day (Hopko, Lejuez, Lepage, Hopko, & McNeil, 2003). It has a demonstrated efficacy in high-income contexts (Cuijpers, van Straten, & Warmerdam, 2007). The 12-session iteration included here also included a psychoeducation component (Magidson et al., 2015).

CPT is an evidenced based treatment for posttraumatic stress (PTS) and PTS comorbid with depression that is delivered over 12 sessions (Kaysen et al., 2013; P. Resick, Monson, & Chard, 2008; P. A. Resick, Schnicke, & psychology, 1992). *CPT* integrates cognitive restructuring with emotional processing of trauma related events that teaches individuals to identify and modify negative beliefs, in order to reconceptualize the trauma in a way that reduces its continued sequelae on current life.

Participants and Settings

Participants from all five regions were affected by traumatic events, and all five regions were either active conflict zones or regions in which conflict had recently ceased. In Kurdistan, Southern Iraq, and Thailand, participants included political prisoners and victims of torture. The sample in the DRC trial was comprised exclusively of women who had experienced sexual violence and armed conflict. Findings from randomized controlled trials (RCTs) have been previously published. Brief summaries of the setting, participants and results are included here by region.

Iraqi Kurdistan

The Kurdistan autonomous region in Northern Iraq is comprised of four governates in Erbil, Duhok, Silemani, and Halabja. At the time of data collection (i.e. prior to conflict with the Islamic State) it was a relatively stable region. Iraqi Kurds experienced imprisonment, exposure to chemical weapons, torture, and mass killings perpetrated Saddam Hussein's ruling government during the Anfal Genocide in the late 1980's. Many who lived through the 80's and early 90's continue to suffer problems attributable to those experiences,

such as poverty, discrimination, stigma, mental health problems, and difficulty with social, physical, and economic functioning (Bolton, Michalopoulos, Ahmed, Murray, & Bass, 2013).

Data for the trial included in this database were collected to examine the efficacy of both BA and CPT interventions, provided in rural health clinic settings for torture and trauma survivors. Participants were referred by doctors and nurses from primary care clinics and collaborating prisoner organizations. BA and CPT were adapted to suit local beliefs and culture, and to be more readily delivered by paraprofessionals to clients with low-literacy rates (Kaysen et al., 2013; Magidson et al., 2015).

Both interventions were compared to a waitlist control condition (Bolton, Bass, et al., 2014). Community mental health workers provided each intervention at different sites across four governorates to 215 participants randomly assigned to one of the psychotherapy conditions. The results demonstrated a significant reduction of depressive symptoms and functional impairment with large to moderate effect sizes for BA and CPT (Bolton, Bass, et al., 2014).

Southern Iraq

Iraq has been plagued by governmental instability, human rights abuses, open conflict, and subsequent poverty and unemployment for the last thirty years. The rise of the Islamic State in Iraq and the Levant (ISIL) occurred after the included trials were complete. The combined database contains data from the southern cities of Basra, Nasiriyah, Karbala, Najaf and Hilla, which are in three of the country's 19 governorates, encompassing rural and urban settings, and ranging from the southern border with Kuwait, to just 100 kilometers south of Baghdad in central Iraq. The data were collected from separate trials comparing two

interventions, CETA and CPT, among torture and trauma survivors. Both interventions were compared to a waitlist control condition (Weiss et al., 2015).

Participants were referred to non-specialized community mental health workers by physicians at local health centers and through self-referral following public service announcements and word of mouth (Weiss et al., 2015). Non-specialized health workers were trained in CETA or CPT to provide the intervention in a primary healthcare setting. Both interventions were culturally adapted for local use (Kaysen et al., 2013; Weiss et al., 2015), and delivered one-on-one to clients. There were 228 participants in the treatment arms, with 154 men participating ($n = 87$ in CPT arm, $n = 67$ in CETA arm). There were significant effect sizes for both interventions on PTS symptoms and depression, with CPT demonstrating moderate effect sizes for both categories, and CETA demonstrating large effect sizes in all outcomes.

Thailand-Burma Border

Since Myanmar's independence from Great Britain in the 1940's, the country has experienced ethnic conflict, military coups, political persecution, and civil war. The constant threat of violence and climate of fear, peaking in the late 1980's following student-led uprisings across the country, has led nearly two million Burmese to flee for the Thailand-Burma border. The township of Mae Sot has subsequently served as the flashpoint for a refugee resettlement crisis. Burmese dissidents who fled to Thailand following the 1988 democratic uprising reported an average of 30 traumatic events per person surveyed, including interrogation (89%), imprisonment (78%), threats of deportation (70%) and torture (38%) with elevated depressive symptoms (38%) and PTSD symptoms (23%) (Alden et al., 1996).

The included data were collected from 2011-2012 for a trial of CETA compared to a waitlist control condition among displaced Burmese torture survivors and political prisoners. Counselors and local partner staff referred Burmese refugees for screening, and eligible participants (N = 347) were block randomized to treatment arms (Bolton, Lee, et al., 2014). Treatment was conducted by lay service providers, with sessions taking place in rural primary care settings within Mae Sot, Thailand. The results at post-treatment follow-up indicated a significant reduction in depressive and PTS symptoms within the CETA arm (Bolton, Lee, et al., 2014), corresponding to large clinical effect sizes for symptom reduction.

Colombia

For Colombia, the 20th century was marked by sporadic internal conflict, with country-wide riots in the 1940's resulting in nearly 180 thousand deaths, military coups in the 1950's, and the organization of several left-wing guerilla paramilitary groups in the rural Northern part of the country - the last of which, FARC, signed a peace treaty in 2017 after nearly 60 years of armed conflict with the institutional government.

Many Colombians in the northern regions were displaced as a result of conflict between the Colombian government and paramilitary forces. The trial included in this investigation took place along the country's Pacific Coast in Buenaventura and Quibdó - cities that are largely populated by displaced Afro-Colombians. Participants were identified by key informants (i.e. community leaders from the National Association of Displaced Afro-Colombians) who were able to contact individuals affected by violence and had visible symptoms of psychological distress, who in turn identified other possible participants through snowball sampling (Bonilla-Escobar et al., 2018).

In this trial (Bonilla-Escobar et al., 2018), CETA was compared to a waitlist control condition among displaced and trauma-affected Afro-Colombians. Treatment was provided by lay service providers trained via an apprenticeship model, with sessions taking place in a community center or in the participant's home. A total of 175 adults were randomized to the CETA treatment condition. Findings suggest that there were large, clinically significant effect sizes for reductions in PTS and depression in Buenaventura at post-assessment. In Quibdó, there was a small effect size for PTS, but no significant findings for other outcomes (Bonilla-Escobar et al., 2018).

Democratic Republic of Congo (DRC)

The DRC is one of the poorest countries in the world (International Monetary Fund, 2018), with high political instability, and ongoing conflicts in several administrative districts. Among women in conflict-affected areas of eastern DRC, nearly 40% reported an experience of sexual violence in the years following the 1994 civil war (Johnson et al., 2010). Survivors of sexual violence face a range of serious mental health problems including elevated rates of PTS, depression, and suicidality (Bartels et al., 2010; Dossa, Zunzunegui, Hatem, & Fraser, 2014; Johnson et al., 2010; Verelst, De Schryver, Broekaert, & Derluyn, 2014).

The trial included in this analysis was conducted from 2010-2013, and included 405 women from 15 different villages, and compared group CPT to a general individual support control. Psychosocial assistants from the study villages were asked to identify up to 24 participants with probable PTS from their current or past case load. Findings were strong for all mental health outcomes, with results indicating large, statistically significant effect sizes for clinical improvement in PTS and depression (Bass et al., 2013), as well as positive

impacts on group participation (Hall et al., 2014) and decreased stigma (S. Murray et al., 2018), at both the end of treatment and six months after treatment completion.

Measures

Intervention Completion was coded as a binary variable to indicate whether or not a participant completed the given intervention (i.e. 1 = Completed, 0 = Not Completed). Participants were considered treatment completers if they attended nine or more sessions of BA or CPT (Bolton, Bass, et al., 2014), or received the ‘finishing steps’ or wrap-up session in CETA (L. Murray et al., 2018).

Region of study was used to define the nominal cluster grouping variable and provided the hierarchical structure for the data. Participants were assigned a categorical numeric value depending on which intervention region the trial was conducted in, resulting in five clusters.

Demographic Information was ascertained at baseline for each trial, including age, marital status, educational attainment, and participant gender. Educational attainment and marital status were dichotomized to address small cells in the frequency of some of the original categorizations, and to address sample size issues for some of the sites. Educational attainment was recoded to reflect whether or not the participant had completed primary education (elementary school to postgraduate education) or not. Marital status was recoded to indicate whether or not the participant was currently married, or not (single, divorced, widowed, etc.). Age was included as a categorical variable based on quartile cut-points per site that corresponded to decades (e.g. 30 – 39 years). An additional cluster-mean centered age variable was computed to be included in secondary models for sensitivity analyses by subtracting the mean age within a site from an individual’s reported age at baseline.

Baseline Mental Health Symptom Severity was measured using data from locally adapted versions of the Harvard Trauma Questionnaire (HTQ) (Mollica et al., 1992), the Hopkins Symptom Checklist (HSCCL) (Hesbacher, Rickels, Morris, Newman, & Rosenfeld, 1980), and separate sections containing frequently mentioned mental health symptoms from each site's respective qualitative study. The HSCCL contains items related to both anxiety and depression symptoms. In this analysis, those two subscales were included as separate constructs. Additional information regarding the qualitative methods used to identify idiomatic expressions of distress in each respective sample can be found elsewhere (Applied Mental Health Research Group, 2013; Bass, Ryder, Lammers, Mukaba, & Bolton, 2008; Bolton, Bass, et al., 2014; Haroz et al., 2014; Weiss et al., 2015), but included focus groups, rapid qualitative assessment for identifying expressions of distress. These measures were translated and back-translated to the local language, and pilot tested prior to use. In all five sites, cognitive interviewing, key informant interviews, and focus groups were used to explore idiomatic expressions of distress that may not have been directly accounted for within each inventory. PTS and depression symptoms were dichotomized using a cut-point based on whether or not a participant's mean score was above or below the 75th percentile score for a given region.

Analysis

Potential individual characteristics related to intervention completion were assessed for inclusion in the final hierarchical analysis through a stepwise process. Fisher's exact tests were used to evaluate the bivariate relationships between completion, and binary and categorical covariates (e.g. educational attainment). Between-groups *t*-tests were used to evaluate bivariate relationships between completion and continuous covariates (e.g. PTS

scores or age). Significant covariates were subsequently included in bivariate logistic regressions, and ultimately in the final hierarchical models.

Hierarchical logistic regression (HLR) analyses with robust variance estimation were used to account for the nested nature of the data (Bryk & Raudenbush, 1992). Given that each trial was conducted in a specific cultural context, including a random effects coefficient to account for differential effects of trial location is relevant. To examine the proportion of variance between sites, an intraclass correlation coefficient (ICC) was calculated for a model including only treatment completion and site as a varying-intercept random effect coefficient (i.e. the unconditional means model). The ICC estimate for the unconditional means model was .18 ($p < .0001$), suggesting a considerable amount of between-cluster variance, justifying the use of HLM.

To account for a small sample size in the second-tier cluster variable (i.e. sites), we used 1000-repetition cluster bootstrapping of standard error estimates (Chernick & LaBudde, 2014). This process samples J clusters with replacement where J is equal to the number of clusters included in the subsequent hierarchical analysis. In this analysis, the bootstrapping process randomly created datasets from all individuals in four randomly selected sites, wherein some datasets included individual data from the same site multiple times. This process provides more accurate standard error estimates when there are too few entries in a hierarchical grouping variable (Huang, 2016).

To estimate the HLR's, we used QR decomposition as an alternative estimation method to aid model convergence. Using the *meqrlogit* command in Stata 14 (Statacorp, 2015) and cluster bootstrapping standard error estimates, five iterative models were estimated to examine possible effect measure modification by gender. Model One includes the covariates listed above, excluding gender. The Model Two estimates the same model but includes

gender as a covariate. Model Three includes all covariates from Model Two, with additional interaction coefficients between gender and age, marital status, education, PTS percentile, and depression percentile. An additional post-hoc analysis for Model Three included the estimation of marginal odds of completion for men and women from the lower and higher depression score classifications to more easily visualize any significant interaction effect. Models Four and Five include covariates from Model One stratified by gender, such that Model Four includes only male participants and Model Five only females.

4.4 Results

Demographic and mental health information for the participants are displayed by trial site in Table 4.1. The covariates displayed were all included in the final hierarchical model based on significant correlations, χ^2 -values and *t*-test outcomes for categorical and continuous covariates, respectively (see Appendix B). The final model included categorical age, marital status, educational attainment, and reporting depression and PTS symptoms in the top quartile of the participant's respective site (two dichotomous variables). Across all model estimates, the magnitude, directionality and significance of individual findings were consistent when cluster-centered mean age was included as a continuous covariate. We believe that the findings are easier to interpret when included categorically given the dichotomous nature of the outcome variable. As such, only the categorical outcomes are reported here.

Table 4.1: Demographic and clinical characteristics of the analytic sample

Variable	Men (n = 342)	Women (n = 615)	Total (n = 957)
<i>Completers</i>			
Yes, n(%)	273 (79.82)	478 (77.72)	751 (78.47)
No, n(%)	69 (20.18)	137 (22.28)	206 (21.53)
<i>Site</i>			
DRC, n(%)	0 (0.00)	157 (25.53)	157 (16.41)
Thailand, n(%)	71 (20.76)	111 (18.05)	458 (57.25)
Iraqi Kurdistan, n(%)	91 (26.61)	124 (20.16)	215 (22.47)
Southern Iraq, n(%)	154 (45.03)	74 (12.03)	228 (23.82)
Colombia, n(%)	26 (7.60)	149 (24.23)	175 (18.29)
<i>Age, Mean\pmSD</i>			
18-29, n(%)	41.21 \pm 13.25	38.28 \pm 13.95	39.33 \pm 13.77
30-39, n(%)	64 (18.71)	181 (29.43)	245 (25.60)
40-49, n(%)	85 (24.85)	154 (25.04)	239 (24.97)
50 and older, n(%)	98 (28.65)	132 (21.46)	230 (24.03)
	95 (27.78)	148 (24.07)	243 (25.39)
<i>Education</i>			
No Primary Education, n(%)	176 (51.46)	449 (73.01)	625 (65.31)
Primary Schooling, n(%)	166 (48.54)	166 (26.99)	332 (34.69)
<i>Marital Status</i>			
Not Married, n(%)	100 (29.41)	267 (43.41)	367 (38.43)
Currently Married, n(%)	240 (70.59)	348 (56.59)	588 (61.57)
<i>Depression Score, Mean\pmSD</i>			
Below cluster mean, n(%)	1.53 \pm .32	1.63 \pm .38	1.59 \pm .36
At or above cluster mean, n(%)	252 (73.68)	459 (74.63)	711 (74.29)
	90 (26.32)	156 (25.37)	246 (25.71)
<i>PTS, Mean(SD)</i>			
Below cluster mean, n(%)	1.60 \pm .26	1.66 \pm .40	1.64 \pm .36
At or above cluster mean, n(%)	267 (78.07)	445 (72.36)	712 (74.40)
	75 (21.93)	170 (27.64)	245 (25.60)

Models One & Two – Including Gender As A Covariate

The adjusted odds ratios (aOR) and 95% confidence intervals from all five logistic regression models are presented in Table 4.2. The first two models demonstrate the changes in effect size when gender is included as a covariate in models with no interaction coefficient. Model One did not include gender as a covariate. Individuals 49 years and older were more likely than the younger participants (aged 18 - 28) to complete their respective intervention (aOR = 1.50, CI = 1.03 – 2.19). Individuals with HSCL depression scores in the 75th percentile for their cluster were significantly less likely to complete therapy (aOR = .77, CI = .64 - .93), while individuals with HTQ PTS scores in the 75th percentile were significantly more likely to complete therapy (aOR = 1.54, CI = 1.00 – 2.35), though significance was marginal ($p = .048$). There were no other statistically significant predictors of intervention completion.

Model Two utilized the same coefficients, with the addition of gender. Similarly, older participants (49 years and older) were significantly more likely to complete treatment (aOR = 1.55, CI = 1.05 – 2.25), as were individuals with 75th-percentile HTQ scores (aOR = 1.52, CI = 1.00 – 2.25) though only marginally. Participants with 75th-percentile HSCL depression scores were significantly less likely to complete treatment than participants with lower scores (aOR = .78, CI = .65 - .93). There was a significant effect for gender, indicating that women were more likely than men to complete treatment (aOR = 1.17, CI = 1.04 – 1.32).

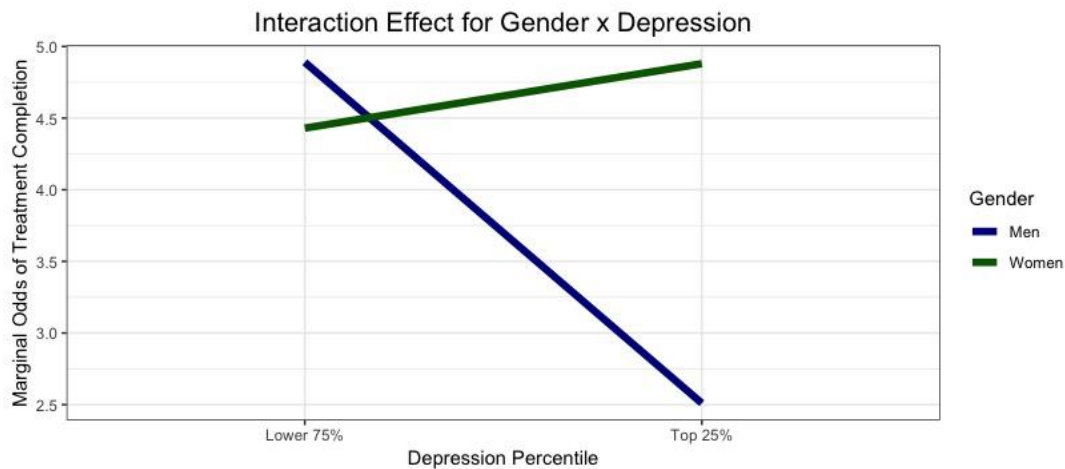
Table 4.2: Adjusted odds ratios (aOR) from five iterative logistic models

Covariate	Model 1 Excluding Gender aOR (95% CI)	Model 2 With Gender aOR (95% CI)	Model 3 Interactions aOR (95% CI)	Model 4 Men Only aOR (95% CI)	Model 5 Women Only aOR (95% CI)
<i>Age</i>					
18-29	REF	REF	REF	REF	REF
30-39	1.13 (.71 - 1.78)	1.14 (.71 - 1.81)	1.11 (2.8 - 4.44)	1.13 (.27 - 4.65)	1.16 (.68 - 1.96)
40-49	1.26 (.76 - 2.09)	1.28 (.77 - 2.12)	1.55 (.40 - 6.02)	1.58 (.42 - 5.98)	1.19 (.85 - 1.65)
50 and older	1.50 (1.03 - 2.19)	1.55 (1.05 - 2.25)	1.09 (.33 - 3.62)	1.07 (.31 - 3.67)	1.94 (1.11 - 3.38)
<i>Marital Status</i>					
Unmarried	REF	REF	REF	REF	REF
Married	.97 (.84 - 1.11)	.98 (.85 - 1.13)	.97 (.62 - 1.51)	.98 (.60 - 1.60)	1.00 (.76 - 1.30)
<i>Primary Education</i>					
No	REF	REF	REF	REF	REF
Yes	1.14 (.92 - 1.57)	1.16 (.85 - 1.13)	.80 (.26 - .88)	.83 (.56 - 1.24)	1.46 (.76 - 1.30)
<i>Depression Score</i>					
Below	REF	REF	REF	REF	REF
75th Percentile	.77 (.64 - .93)	.78 (.65 - .93)	.48 (.26 - .88)	.48 (.25 - .92)	1.01 (.79 - 1.28)
<i>PTS Score</i>					
Below	REF	REF	REF	REF	REF
75th Percentile	1.54 (1.00 - 2.35)	1.52 (1.00 - 2.30)	1.67 (.64 - 4.38)	1.66 (.61 - 4.58)	1.42 (.89 - 2.28)
<i>Gender</i>					
Male	-	REF	REF	REF	REF
Female	-	1.17 (1.04 - 1.32)	.68 (.29 - 1.64)	-	-
<i>Gender × Age</i>					
18 - 29	-	-	REF	-	-
30 - 39	-	-	1.04 (.21 - 5.22)	-	-
40 - 49	-	-	.76 (.23 - 2.59)	-	-
50 and older	-	-	1.79 (.41 - 7.87)	-	-
<i>Gender × Marital Status</i>					
Unmarried	-	-	REF	-	-
Married	-	-	1.03 (.53 - 2.00)	-	-
<i>Gender × Education</i>					
No	-	-	REF	-	-
Yes	-	-	1.85 (.91 - 3.76)*	-	-
<i>Gender × Depression</i>					
Below	-	-	REF	-	-
75th Percentile	-	-	2.11 (1.17 - 3.79)	-	-
<i>Gender × PTS</i>					
Below	-	-	REF	-	-
75th Percentile	-	-	.86 (.32 - 2.33)	-	-

Model Three, Four, & Five: Interactions

There was a significant direct effect for depression score percentile (aOR = .48, CI = .26 - .88). There were no other significant individual covariates. The interaction between gender and depression was significantly associated with an increased likelihood for intervention completion (aOR = 2.11, CI = 1.17 – 3.79). To better interpret the ‘ratio of odds ratios’ outcome associated with a categorical-by-categorical interaction, we estimated marginal odds of treatment completion for men and women from the two depression score categories. The subsequent marginal odds of intervention completion are presented in Figure 4.1.

Figure 4.1: Visualization of interaction effect for gender and depression



Given the significant interaction between depression and gender, two stratified models were estimated for men and women exclusively. In the women’s only analysis, older participants (49 years or greater) were significantly more likely to complete treatment than younger women (aOR = 1.94, CI = 1.11 - 3.38). There were no other covariates significantly associated with completion. Among men, 75th – percentile HSCL scores were associated with a significant decrease in the likelihood of treatment completion (aOR = .48, CI = .25 - .92).

4.5 Discussion

The purpose of this investigation was to explore factors associated with treatment completion within the context of mental health treatment trials in five low-income contexts, with specific interest in differences by gender. Using HLM in a stepwise moderation framework, we identified individual characteristics associated with treatment completion for men and women, and examined the potential moderating effect of gender on treatment completion. The findings suggest that men were significantly less likely to complete treatment than women, and that men experiencing more severe depression were less likely to complete treatment.

Depression severity at baseline was significantly associated with decreased likelihood of treatment completion. This relationship appears to be moderated by gender, in that men with depression scores in the 75th percentile for their site were 60% less likely than those with lower scores to complete an intervention. A relationship between elevated depression symptom severity and completion was not significant among women in this sample.

The results of this investigation suggested that across the entire sample, women were 17% more likely than men to complete treatment when accounting for the random effects of intervention site, and controlling for age, marital status, education, and baseline mental health symptom severity. This finding is consistent with extant literature from large, population-based data drawn from international contexts (Seedat et al., 2009; Susukida et al., 2015), but it is uncertain if this has been observed in similarly sized samples exclusively from low-income or humanitarian settings.

Women's completion was influenced by age, such that older women (i.e. 50 years and older) were almost twice as likely to complete interventions than the youngest age bracket (18 -29 years old; 95% CI = 1.11 – 3.38). This effect for categorical age was not

found among men, and it attenuated to null after including an age x gender interaction. This finding suggests that additional formative work that seeks to better understand young women's expectations for and attitudes regarding psychotherapy could be beneficial for increased treatment adherence in LMICs.

There was a highly significant interaction effect between gender and depression symptom severity (aOR = 2.11, CI: 1.17 – 3.79) as a predictor of treatment completion. This implies a significant difference between men and women in how likely they are to complete treatment as a function of their depression symptom severity. Subsequent stratified analysis to assess for effect modification suggested that men with the most severe depression scores (in the top 25%) were significantly likely to prematurely terminate treatment compared to men in the lower group (i.e. the bottom 75% of HSCL scores), whereas there was no significant difference between women by their dichotomous depression severity (see Figure 4.1).

There is some evidence of a relationship between experiencing depression symptoms and decreased medical care seeking from high-income countries (DiMatteo, Lepper, & Croghan, 2000), but the extent to which it is influenced by gender or occurs in low-income contexts requires further clarification, particularly for mental health interventions. This has important implications for engaging men in low-income contexts. Within this sample, the most severely symptomatic men were the most likely to terminate care prematurely. As such, programmatic changes for mental health interventions might include more consistent and thorough monitoring of highly depressed patients, specific outreach protocols focused on retaining men in interventions, and psychoeducation protocols specifically for men who indicate higher depressive symptoms.

The mechanism underlying this relationship requires more detailed investigation. Large, population-based surveys from global populations have demonstrated that men are less likely to suffer depressive disorders than women, but that that gap is closing in younger generations as gender role traditionality wanes (Seedat et al., 2009). Given the potential rise in burden of depression among younger men, increased understanding of how depression symptoms affect treatment engagement is critical for more effective interventions. Additional strategies for exploring this relationship could include in-depth interviews and qualitative investigations with depressed men in LMICs, or latent class investigations of similar data sets that identify specific depressive symptoms associated with an increased likelihood of premature termination of MHPSS interventions.

These data were limited in that they did not include personal-level data related to conceptualizations of masculinity, gender role traditionality, or perceived need. Adherence to masculine gender norms has been implicated as an attitudinal barrier to care for men seeking mental health treatment (Addis & Mahalik, 2003; Berger, Addis, Green, Mackowiak, & Goldberg, 2013), and the extent to which more universal masculine traits (e.g. being in a breadwinner role, self-reliance) are endorsed could also drive treatment engagement. Perceived need is consistently mentioned in mental health services research as a substantial attitudinal barrier to care seeking (Andrade et al., 2013; Susukida et al., 2015), though it is often poorly defined in questionnaires (Galdas, Cheater, & Marshall, 2005). It may be the case that depressed men may have differential conceptualizations of their own perceived need that in turn limit their desire or ability to continue a given psychological intervention. Including some measurement of this construct in future research could be critical to a more nuanced understanding of factors associated with treatment completion.

The primary limitation to this study is related to small sample sizes in the level-two cluster variable site. However, cluster bootstrapping of a standard error estimate should not interfere with the directionality or magnitude of estimated coefficients, only the statistical power of those estimations. While using a hierarchical approach to account for between-site variability allows more accurate variance partitioning, it does not account for broader cultural factors underlying individual site results. Including indicators of gender inequality (e.g. the Gender Inequality Indices (United Nations Development Programme, 2018) of sites included) could provide further clarification of systematic or cultural factors at work.

There are several strengths to this investigation. The use of a large, aggregate data set of nearly 1,000 participants across a variety of cultural contexts allows for consideration of site-specific differences while maintaining generalizability. Using HLM specifications allows for more careful partitioning of between-site variance. The participants in these trials were all living in humanitarian, conflict, or immediately post-conflict environments at the time of data collection, providing further insight into the specific needs of men and women regarding treatment adherence in the most resource-limited circumstances.

Given global interest in expanding mental health programs and psychosocial support programs across low- and middle-income contexts, careful consideration of factors that might impact the likelihood of individual success in these programs is critical. To our knowledge, this is the first exploration of such factors in a large trial-based sample. This study identified individual-level factors that contribute to participants' likelihoods of completing three common, evidence-based interventions across five low-income and humanitarian contexts. The results suggest that a more careful consideration of men's needs in intervention design and engagement strategies is necessary, particularly with respect to men experiencing severe depressive symptoms.

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Chapter 5

Individual- and Counselor-Level Predictors of Treatment Completion Among Men in Low-Income Contexts: Examining the Role of Depressive Symptoms

5.1 Abstract

Background: Despite experiencing similar rates of mental health problems compared to women, men are significantly less likely to use formal treatment for mental health problems. In low- and middle-income countries (LMICs), where the burden of mental disorders is high and treatment is less available, issues of men's engagement with psychotherapy remains under-researched. We sought to identify individual- and counselor-level covariates associated with intervention completion among men in four different low-income country contexts.

Methods: Data from controlled trials in four LMICs – Colombia, the Thailand-Burma Border, Iraq, and Iraqi Kurdistan – were compiled into a single database ($N = 342$ men). The trials evaluated three different evidence-based interventions: Cognitive Processing Therapy, Behavioral Activation, and the Common Elements Treatment Approach. Mixed-

effects logistic regression was used to model the likelihood of treatment completion on individual-level factors (e.g. age, posttraumatic stress symptoms) and counselor-level factors (e.g. counselor experience level) using counselor caseloads as a cluster variable. Additional analyses examined the between- and within-effect of mean depression score, as well as the contextual effect of depression by counselor.

Results: Increased depression symptom severity was associated with a 69% reduction in odds of treatment completion among men in this sample (95% CI = .1 - .94). Counselor experience and counselor gender were not significant predictors of treatment completion. While within-cluster depression scores were marginally significant predictors of completion ($p = .06$), there was no significant contextual effect for depression symptom on completion.

Conclusions: Better understanding of depression's role in men's mental health service engagement is critical for more effective implementation of mental health psychotherapy programs in LMICs.

5.2 Background and Significance

Large population-based surveys typically identify men as having higher prevalence rates of externalizing disorders compared to women (C. J. L. Murray et al., 2012; Susukida, Mojtabai, & Mendelson, 2015; World Health Organization, 2002). However, the burden of internalizing disorders (i.e. posttraumatic stress disorder, generalized anxiety disorder, and depression) is growing among men in international samples as gender role traditionality decreases in younger cohorts (Seedat, Scott, Angermeyer, & et al., 2009). Among men, internalizing disorders may be under-diagnosed and underreported (M.E Addis & Hoffman, 2017; American Psychological Association, 2018; Möller-Leimkühler, 2002; Spinazzola, Blaustein, & van der Kolk, 2005).

Despite these challenges, men more frequently hold unfavorable opinions of mental health care seeking (Berger, Addis, Green, Mackowiak, & Goldberg, 2013), and are less likely to utilize formal mental health and psychosocial services (MHPSS) programs (Spendelow, 2014). Individuals endorsing more traditional masculine norms are also less likely to both present for therapy (Primack, Addis, Syzdek, & Miller, 2010), and to hold positive attitudes regarding care seeking writ large (Berger et al., 2013; Galdas, Cheater, & Marshall, 2005; Lynch, Long, & Moorhead, 2016). The extent to which this problem persists in low- and middle-income countries (LMICs) is largely unexplored, and is potentially exacerbated by a higher burden of mental health disorders (Charlson et al., 2016; C. J. L. Murray et al., 2012), and lower availability of MHPSS programing (Bruckner et al., 2011; Eaton et al., 2011). Critics assert that researchers and practitioners alike are too willing to ascribe men's apparent disinterest in MHPSS programs to stereotypical contrasts between men and women, masculinity and heteronormativity (Michael E Addis & Mahalik, 2003) rather than investigating individual differences among men. Better understanding of how heterogeneity

between men from diverse settings (i.e. cultural or socioeconomic backgrounds) affects treatment engagement is critical for a more nuanced understanding of barriers to care (Galdas et al., 2005). Research that evaluates clinical and sociodemographic characteristics and accounts for context-specific variability could clarify some of the individual-level factors related to intervention completion.

Several trials in LMICs including both men and women have reported challenges with recruiting, engaging, and retaining men in treatment (Basoglu, Şalcioğlu, & Livanou, 2007; Bolton et al., 2003; Bolton, Bass, et al., 2014). Though adapting evidence-based MHPSS interventions for use in LMICs has been a key strategy to improve treatment access in these regions (Becker & Kleinman, 2013; Bruckner et al., 2011; Patel, 2009), there have been limited attempts to alter strategies specifically for the engagement and treatment needs of men. While structural and attitudinal barriers to seeking mental health care have been explored from a gender perspective (Andrade et al., 2013; Buffel, Van de Velde, & Bracke, 2014; Susukida et al., 2015), research regarding premature treatment cessation for men in domestic settings is limited to incarcerated, gender-based violence and dual-diagnosis populations, and more limited still in low-income and humanitarian settings.

One literature review of serious mental disorders (e.g. schizophrenia) notes the importance of practitioner-level factors such as therapeutic alliance, and more person-centered orientations emphasizing immediate needs have a critical role in participant engagement (Dixon, Holoshitz, & Nossel, 2016). In a large meta-analytic review, Swift & Greenberg (2012) posited that individuals in treatment for mood and posttraumatic stress (PTS) disorders had a drop-rate of approximately 20%. They found treatment completion was significantly moderated by provider experience level, though other counselor features such as age and race were not significantly associated with treatment completion (Swift &

Greenberg, 2012). In LMICs, where MHPSS programming can be relatively novel and counselors are often non-mental health professional trained through task-shifting modalities (van Ginneken et al., 2013), the extent to which counselor features affect treatment engagement could be critical for improving engagement with mental health services.

As high-income countries become more interested in improving men's engagement with MHPSS programs (American Psychological Association, 2018; Lynch et al., 2016), and mental health programs expand in the rest of the world (Eaton et al., 2011), exploratory research that identifies factors that improve the likelihood of intervention success in the most need-intensive parts of the world is necessary. Studies that examine factors associated with treatment completion are limited at both client and provider levels, and still more scarce when looking beyond those conducted in high-income countries. The purpose of this investigation is to identify client and counselor level covariates associated with treatment completion among men from four LMIC contexts. In so doing, we hope to clarify influential factors that impact men's decision to continue or leave treatment across several diverse, high-need contexts.

5.3 Methods

We investigated potential client- and counselor-level predictors of treatment completion within an all-male sample derived from a large, multi-trial database. The results described in the preceding chapter highlighted the role of depressive symptoms in treatment engagement for men. As such, we were interested in delineating between the total effect and the contextual effect of depression among specific counselors and settings. The data used were compiled from randomized controlled trials conducted in four LMIC regions – the Thailand-Burma border, Colombia, Iraqi Kurdistan, and Southern Iraq - as part of a

secondary data analysis investigation (Bass; R01MH105450) to examine moderators of treatment efficacy. The full trial database included 957 in treatment across baseline and follow-up time periods. This subgroup analysis includes 342 men who participated in trials that tested three different psychotherapies.

Interventions Included

The trials included were conducted from 2009-2015 and encompassed three different psychological interventions: Behavioral Activation (BA), Cognitive Processing Therapy (CPT), and Common Elements Treatment Approach (CETA).

BA is a common component of evidence-based treatments depression and anxiety, and has been used widely as a standalone treatment for depression (Mazzucchelli, Kane, & Rees, 2009). It relies on activity scheduling, time management, and mood monitoring to increase the number of positive interactions encountered per day (Hopko, Lejuez, Lepage, Hopko, & McNeil, 2003), and has a demonstrated efficacy in high-income contexts (Cuijpers, van Straten, & Warmerdam, 2007). The 12-session iteration included here also included a psychoeducation component (Magidson et al., 2015).

CETA is a transdiagnostic, components-based mental health intervention developed to be readily adapted to suit the needs of low-income context (Chorpita, Daleiden, & Weisz, 2005; L. Murray et al., 2014). Trained counselors structure session order, number, and content depending on client symptoms. Content for sessions includes evidence-based approaches to managing anxiety, depression, substance use problems, and PTS symptoms.

CPT is an evidenced-based treatment for posttraumatic stress (PTS) and PTS comorbid with depression that is delivered over 12 sessions (Kaysen et al., 2013; P. Resick, Monson, & Chard, 2008; P. A. Resick, Schnicke, & psychology, 1992). It combines cognitive

restructuring and emotional processing of trauma-related events to guide individuals through the process of identifying and modifying negative beliefs, in order to reconceptualize the trauma in a way that reduces its continued sequelae on current life.

Participants and Settings

Men from all four studies reported exposure to traumatic events. All sites were either active conflict zones or regions in which conflict had recently ceased. In Kurdistan, Southern Iraq, and Thailand, participants also included political prisoners and victims of torture. Findings from randomized controlled trials (RCTs) in all four sites have been previously published. Brief summaries of the setting, participants and results are included here by region.

Thailand-Burma Border

Following its independence from Great Britain, Myanmar (Burma) has experienced ethnic conflict, political persecution, and civil war. Threats of violence and a climate of fear culminated in 1988's student-led uprisings across the country. The subsequent government crackdown led to mass casualties and fanned ethnic conflicts across all 12 states. Since the late 80's, two million Burmese nationals have fled for the Thailand-Burma border. The township of Mae Sot, Thailand served as the focal point for a refugee resettlement crisis. Burmese political refugees living in Thailand reported an average of 30 traumatic events per person surveyed, including interrogation (89%), imprisonment (78%), threats of deportation (70%) and torture (38%) with elevated depressive symptoms (38%) and PTSD symptoms (23%) (Allden et al., 1996).

The data included were collected from 2011-2012 for a trial of CETA compared to a waitlist control condition among displaced Burmese torture survivors and political prisoners residing on the Thailand-Burma border (Bolton, Lee, et al., 2014). Counselors and local partner staff referred Burmese refugees for screening, and eligible participants were block randomized to treatment arms (Bolton, Lee, et al., 2014). Treatment was conducted by lay service providers trained via an apprenticeship model in rural primary care settings around Mae Sot. The results at post-treatment follow-up indicated a significant reduction in depressive and PTS symptoms within the CETA arm (Bolton, Lee, et al., 2014). There were 71 men included in the CETA arm.

Colombia

Since the 1950's, Colombians have been affected by violent conflict between government forces, local militias and cartels. Many in the country's northern regions were displaced as a result of conflict between the Colombian government and paramilitary forces. This trial took place along the country's Pacific Coast in Buenaventura and Quidbó - cities that are largely populated by displaced Afro-Colombians. Participants were identified by key informants (i.e. community leaders from the National Association of Displaced Afro-Colombians) who were able to contact individuals affected by violence and had visible symptoms of psychological distress, who in turn identified other possible participants through snowball sampling (Bonilla-Escobar et al., 2018).

CETA was compared to a waitlist control condition among displaced and trauma-affected Afro-Colombians. Treatment was provided by lay service providers trained via an apprenticeship model, with sessions taking place in a community center or in the participant's home. Findings suggest that there were significant reductions in PTS and

depression in Buenaventura at post-assessment. In Quibdó, there was a small effect size for PTS, but no significant findings for other outcomes (Bonilla-Escobar et al., 2018). There were 26 men included in this study from the CETA arm.

Iraqi Kurdistan

The Kurdistan autonomous region in Northern Iraq is comprised of four governorates in Erbil, Duhok, Silemani, and Halabja. At the time of data collection (i.e. prior to conflict with the Islamic State) it was a stable region, though many Kurds experienced imprisonment, exposure to chemical weapons, torture, and mass killings perpetrated Saddam Hussein's ruling government during the Anfal Genocide in the late 1980's. Survivors of this ethnic cleansing continue to suffer from problems attributable to those experiences such as poverty, discrimination, stigma, mental health problems, and difficulty with social, physical, and economic functioning (Bolton, Michalopoulos, Ahmed, Murray, & Bass, 2013).

Data for the trial included in this database were collected to examine the efficacy of BA and CPT, provided in rural health clinic settings for torture and trauma survivors. Participants were referred by doctors and nurses from primary care clinics and collaborating prisoner organizations. BA and CPT were both adapted to suit local beliefs and culture to be more readily delivered by paraprofessionals to clients with low-literacy rates (Kaysen et al., 2013). Community mental health workers provided each intervention at different sites across all four governorates to participants randomly assigned to one of the psychotherapy conditions. Treatment groups were compared to a waitlist control arm. The results demonstrated a significant reduction of depressive symptoms and functional impairment with large and moderate effect sizes for BA and CPT, respectively (Bolton, Bass, et al., 2014). These trials included N = 42 men in the CPT arm and N = 49 in BA.

Southern Iraq

Iraq has suffered instability, human rights abuses, and open conflict for decades. The combined database contains data the southern cities of Basra, Nasiriyah, Karbala, Najaf and Hilla. Recently, fallout from civil war in neighboring Syria and the rise of the Islamic State have led to widespread violence and human rights abuses throughout the country. Sites for the trial in Southern Iraq include cities from three of the country's 19 governorates, encompassing rural and urban settings, and ranging from the southern border with Kuwait, to just 100 kilometers south of Baghdad in central Iraq. The data were collected from two separate trial comparing two interventions, CETA and CPT among torture and trauma survivors.

Both interventions were compared to a waitlist control condition (Weiss et al., 2015). Men were referred to community mental health workers by physicians at local health centers and through self-referral following public service announcements and word of mouth (Weiss et al., 2015). Non-specialized health workers were trained in CETA or CPT to provide the intervention in a primary healthcare setting. Both interventions were culturally adapted for local use (Kaysen et al., 2013; Weiss et al., 2015), and delivered one-on-one to clients. Results significant effect sizes for both interventions on PTS symptoms and depression. There were N = 87 men included in the CPT arm, and N= 67 men in CETA.

Measures

Intervention Completion was coded as a binary variable indicating whether or not a participant completed his allocated intervention (i.e. 1 = Completed, 0 = Not Completed). Participants were considered treatment completers if they attended at least nine (75%) of the

twelve sessions of BA or CPT (Bolton, Bass, et al., 2014), or received the ‘finishing steps’ or wrap-up session in CETA (L Murray et al., 2018).

Depression and posttraumatic stress symptoms were measured using a questionnaire containing the depression subscale from the Hopkins Symptom Checklist (HSCL) (Hesbacher, Rickels, Morris, Newman, & Rosenfeld, 1980) and the Harvard Trauma Questionnaire (HTQ) (Mollica et al., 1992). Each survey contained separate sections containing frequently mentioned mental health symptoms from each site’s respective qualitative study. Additional information regarding the qualitative methods used to identify idiomatic expressions of distress in each respective sample can be found elsewhere (Applied Mental Health Research Group, 2013; Bass, Ryder, Lammers, Mukaba, & Bolton, 2008; Bolton, Bass, et al., 2014; Haroz et al., 2014; Weiss et al., 2015). These measures were translated and back-translated to the local language, and pilot tested prior to use. In all four sites, cognitive interviewing, key informant interviews, and focus groups were used to explore idiomatic expressions of distress that may not have been directly accounted for within each inventory. The mean response value for the depression scale of the HSCL and the HTQ were used as an individual’s depression and PTS score, respectively. Item responses on both inventories are based on a Likert scale ranging from 0 – 3, with a response of 0 indicating that the respondent “never” experienced a given symptom and 3 indicating the respondent experienced “very often (3 – 5 times per week)” experienced a given symptom. As such, in this sample, depression scores ranged from .87 to 2.50 at baseline and PTS scores from .48 – 2.72.

Individual-level demographic characteristics such as age and education were ascertained at baseline. Age was included as a continuous variable. Education was included as a dichotomous variable indicating whether or not the participant had completed more than a

primary education or not. Counselor-level characteristics were collected prior to intervention training within a given study context. Counselor experience was encoded as a binary variable indicating whether or not the counselor had prior formal training and experience delivering mental health interventions. Counselor gender was also included as a binary variable.

Analysis

We calculated descriptive statistics for demographic and clinical variables including depression and posttraumatic stress scores, age, primary education status, site of study, counselor experience and gender. There was little to no missingness in any of the included variables (i.e. <2%).

Given our specific research interest in higher-level counselor-specific variables, a hierarchical/mixed-effect logistic regression approach was used for primary data analysis. To more closely examine potential influence of individual practitioners, counselor ID numbers were used as the primary clustering variable in the hierarchical analyses. A counselor's caseload is populated by members of the same communities, neighborhoods, and generally same socioeconomic status. As such, we believe it to be a suitable proxy variable for the influence of site/region of study, as well as the intervention modality used by a given counselor.

The base model was developed using an iterative process, beginning with comparisons of the interclass correlation coefficient (ICC) of three potential unrestricted means models: the first including only counselor ID as a random effect, the second only trial site, and the third both counselor ID and site. The model including only counselor ID produced an ICC of .17, whereas the site-only model's ICC was .09, and the combined site-

counselor ID model ICC was .04 and .16 for site and counselor ID, respectively. In the interest of parsimony, the model including only counselor ID as a cluster variable was used.

We developed augmented models based on counselor ID clusters, comparing the Akaike Information Criterion (AIC) from a base standard logistic regression model to subsequent random effects models (Hamaker, van Hattum, Kuiper, & Hoijtink, 2011). The final model, a general logistic mixed effect model, included depression score as the primary outcome of interest, controlling for posttraumatic stress score, primary education status, age, and counselor experience and gender. To assess whether or not a mixed effect model was appropriate given additional covariates, we conducted χ^2 -tests comparing log likelihood statistics of the tested mixed effect model and its corresponding conventional logistic model (i.e. the same equation with no random effect coefficient). The *meyrlogit* package in Stata 14 produces a log ratio test statistic that is extremely conservative (Statacorp, 2015), so a *p*-value cut-point of .1 was used in model selection given the smaller sample size of these analyses.

Results from the preceding chapter suggested a significantly decreased likelihood of intervention completion among men with higher depression scores. In an effort to clarify the potential within- and between-cluster effects of depression, we developed a second model to explore the role of depression on treatment completion in greater detail (see *Model Two* below).

Model One included a variable specifically representing the total effect of individual depression scores on likelihood of treatment completion (β_{1i}), representing the combined within- and between-cluster effect of depression, such that:

$$\ln\left(\text{OddsCompletion}_{ij}=1\middle|X_{ij}\right)=\alpha_{ij}+\beta_{0i}+\beta_{1i}X_{ij}+\beta_2X_{PTS}+\beta_3X_{Educ.}+\beta_4X_{Age}+\dots+\beta_7X_{site}$$

Where α_{ij} represents the random effect of counselor assignment, and X_{ij} represents the depression score for individual i working with counselor j .

Model Two seeks to delineate between- and within-cluster effects for depression scores. To do so, we calculated the cluster mean (i.e. by counselor) depression score for each counselor, as well as a cluster mean-centered depression score for each client to partition between-counselor and within-counselor effects for each participant. The cluster mean depression score (γ_1) is interpreted as the between-cluster effect of depression on intervention completion. The cluster mean-centered coefficient (β_{1i}) is interpreted as the contextual effect of depression on intervention completion at a counselor level. Model Two is defined as:

$$\ln \left(\text{OddsCompletion}_{ij} = 1 \mid X_{ij}, \bar{X}_i \right) = \alpha_{ij} + \beta_{0i} + \beta_{1i}(X_{ij} - \bar{X}_i) + \gamma_1 \bar{X}_i + \beta_2 X_{PTS} + \beta_3 X_{Educ.} + \beta_4 X_{Age} + \dots + \beta_7 X_{site}$$

As a post-hoc analysis, we decided to explore the possibility that men with higher depression symptom severity were leaving treatment early because they had achieved a similar level of clinical change to men who completed therapy using minimally important difference (MID) cut-points. To do so, we used an MID indicator based on a change in depression score greater than .5 standard deviations between baseline and follow-up (Norman, Sloan, & Wyrwich, 2003), such that if the difference between mean depression scores between baseline and depression was $\geq .5$ of a standard deviation for the mean baseline depression score, a participant would be identified as having achieved a clinically meaningful difference in depression scores.

5.3 Results

Participant Demographics and Clinical Information

The final analytic sample include N = 342 men across the four trials. Descriptive information and characteristics are provided in Table 5.1. There were 273 men (79.82%) who completed their intervention, and 69 who did not. In the full sample, the mean age was 41.21 years (SD = 13.25), and nearly half had received more than a primary education (48.54%). The mean baseline depression score was significantly higher among non-completers ($t = 2.14, p < .05$), with completers scoring an average of 1.51 per item (SD = .24) and non-completers scoring an average of 1.61 (SD = .34). There were 226 male counselors (67.06%), and 111 female (32.94%).

Table 3.1: Sample characteristics and demographics

	All N = 342	Completers N = 273	Non- Completers N = 69	t/χ^2	P- Value
Age, M \pm SD	41.21 \pm 13.25	41.38 \pm 13.32	40.52 \pm 13.06	-0.48	0.32
18-29, N(%)	64 (18.71)	49 (17.95)	15 (21.74)	2.14	0.54
30-39 N(%)	85 (24.85)	67 (24.54)	18 (26.09)		
40 - 49, N(%)	98 (28.65)	83 (30.40)	15 (21.74)		
50 and older, N(%)	95 (27.78)	74 (27.11)	21 (30.43)		
Depression Score, M \pm SD	1.53 \pm .32	1.51 \pm .31	1.61 \pm .34	2.4	0.02
PTS Score, M \pm SD	1.60 \pm .26	1.60 \pm .24	1.59 \pm .33	-0.27	0.79
Site, N(%)				21.71	<.0001
Thailand	71 (20.76)	57 (20.88)	14 (20.29)		
Kurdistan	91 (26.61)	68 (24.91)	23 (33.33)		
S. Iraq	154 (45.03)	135 (49.45)	19 (27.54)		
Colombia	26 (7.6)	13 (4.76)	13 (18.84)		

Primary education, N(%)	166 (48.54)	134 (49.08)	32 (46.38)	0.16	0.69
Counselor Gender				2.11	0.15
<i>Male</i>	226 (67.06)	38 (59.38)	188 (68.86)		
<i>Female</i>	111 (32.94)	26 (40.62)	85 (31.14)		
Counselor Experience				0.001	0.98
<i>No</i>	111 (32.94)	90 (32.97)	21 (32.81)		
<i>Yes</i>	226 (67.06)	183 (67.03)	43 (67.19)		

Relationship Between Depression Symptom Severity and Treatment Completion

The results from the iterative model testing process are presented in Table 5.2. Each line represents a tested model, indicating fixed effect and random effect variables included, as well as the AIC and the χ^2 -value from a log ratio test comparing the indicated model to its corresponding logistic version.

Table 5.2: Iterative model comparisons

	Fixed Effects							Random Effects	AIC	Log Ratio vs Logit, χ^2 (p)
	<i>Dep. Score</i>	<i>PTS Score</i>	<i>Education</i>	<i>Age</i>	<i>C. Gender</i>	<i>C. Experience</i>	<i>Site</i>	<i>Counselor</i>	<i>Site</i>	
<i>Model 1</i>	X	X	X	X						346.91 -
<i>Model 2</i>	X	X	X	X				X		330.37 2.54 (.06)
<i>Model 3</i>	X	X	X	X	X	X		X		332.33 1.77 (.09)
<i>Model 4</i>	X	X	X	X	X	X	X	X		334.33 1.75 (.09)
<i>Model 5</i>	X	X	X	X	X	X		X	X	334.33 1.77 (.41)

Ultimately, the model including all fixed effects, and counselor as a random effect (Model 4; Table 5.2) was selected. While the AIC estimate was lower for the model excluding site and the two counselor-level variables, they were included due to the potential theoretical significance of these covariates and the marginal difference in log ratio and AIC statistics.

Adjusted and unadjusted odds ratios from the primary regression estimation are included in Table 5.3. There were no significant covariates associated with treatment completion at a counselor level. Aside from depression score, there were no significant individual predictors of treatment completion at the individual level.

Table 5.3 Crude and adjusted odds ratios (aOR) of treatment completion – total and contextual effects

	OR (95% CI)	aOR (95% CI)
<i>Depression Score</i>	.36 (.13 - .96)	.31 (.10 - .94)
<i>PTS Score</i>	1.16 (.35 - 3.85)	.99 (.28 - 3.56)
<i>Primary Education</i>	1.18 (.64 - 2.18)	1.13 (.60 - 2.10)
<i>Age</i>	1.00 (.98 - 1.03)	1.00 (.98 - 1.03)
<i>Counselor Gender</i>	.66 (.32 - 1.34)	.66 (.33 - 1.32)
<i>Counselor Experience</i>	.95 (.44 - 2.03)	1.28 (.56 - 2.93)
<i>Site</i>	1.02 (.69 - 1.50)	1.00 (.67 - 1.50)
<hr/>		
	Individual Depression Score aOR (95% CI)	Counselor Mean Depression Score aOR (95% CI)
<i>Model 1: Total Effect</i>		
	.31 (.10 - .94)	-
<i>Model 2: Partitioned within- and between-counselor effects</i>		
	.36 (.04 - 3.22)	.29 (.08 - 1.03)*

Unadjusted odds ratios are based on a bivariate model including the covariate of interest, and a random effects coefficient for counselor ID; Items in bold are significant at $p < .05$

A one-point increase (e.g. 0 – 1, “Never” to “Sometimes”) on an individual’s mean baseline depression rating was associated with a 69% decrease (95% CI = .10 - .94) in the likelihood of treatment completion (Table 5.3; Model 1) as a total effect (i.e. not accounting for between- and within-counselor differences). In order to explore the contextual effect of a given counselor, two separate variables were generated to account for between-counselor and within-counselor effects of a client’s depression symptom severity. The estimated model suggests that at a counselor level, the odds of treatment completion are not affected by individual depression scores (aOR = .36; 95% CI = .04 – 3.22). The between-cluster effect indicates that there is a marginally significant relationship between depression and treatment completion, such that a one-point increase in the average depression score of a counselor’s caseload was associated with a 71% reduced odds of treatment completion at an individual level (aOR = .29; 95% CI = .08 – 1.06).

The contextual effect of depression is calculated by subtracting the log odds of within-counselor effect from the between-counselor effect (Table 5.3, Model 2). It indicates the amount of variation in outcome likelihood specifically attributable to context, i.e. for two men with identical depression scores, to what extent does the mean depression score of his counselor’s caseload (typically men from a participant’s community, neighborhood, clinic, etc.) influence the likelihood of ultimately dropping out. The results indicate that there is no significant contextual effect for depression (OR = .79; 95% CI = .06 – 9.83).

The results of the post-hoc analysis indicated that among men for whom data were available, there was no significant difference between completers and non-completers in achieving a MID between baseline and follow-up ($\chi^2(3) = 3.54, p = .171$). However, follow-up data were not available from 30 out of 69 non-completers (43.48%) compared to 18 out of 273 (6.59%) of completers (Table 5.4). One person from each group (completers and

non-completers) deteriorated, i.e. their symptoms became worse throughout the course of the intervention.

Table 5.4: 2 × 2 Table of MID changes by completer status with missing participants included

	Completer	
	Yes , N(%)	No, N(%)
<i>No MID Change</i>	28 (11.11)	2 (5.13)
<i>Above MID Change</i>	223 (88.49)	36 (92.31)
<i>Deteriorated</i>	1 (.40)	1 (2.56)
<i>Missing</i>	21 (7.69)	30 (43.48)

χ^2 when missing excluded = 3.71, p = .16

5.4 Discussion

In this analysis, we examined potential individual- and counselor-level features related to treatment completion among a sample of men ($N = 342$) from four conflict-affected LMICs. We used a mixed-effect logistic framework to account for counselor-level clustering ($N = 75$). Additionally, we delineated between- and within-cluster effects to examine the contextual effect of depression symptom severity on the likelihood of treatment completion. The bivariate and multivariate estimates are notably consistent across adjusted and unadjusted models (Table 5.3), which suggests that these results are robust to known confounders.

Elevated baseline depression severity scores were a significant client-level predictor of premature intervention termination. A one-point increase on an individual's mean depression score was associated with a nearly 70% reduction in the likelihood of completing the assigned psychotherapy intervention. Given the nature of how these scores were

calculated, this is more readily interpreted as a qualitative difference between someone experiencing depressive symptoms “Sometimes” (i.e. a mean score of 1) to “Often” (a mean score of 2).

There were no other significant predictors of treatment completion at either an individual client or counselor level. The lack of significant association between prior counselor experience and treatment completion was surprising, as previous research has indicated that higher provider experience in MHPSS interventions is significantly associated with a greater likelihood of intervention completion (Swift & Greenberg, 2012), as well as investigations from within the same aggregated dataset utilized in this analysis in which both men and women were included (Kane et al., In Press). The lack of a significant counselor gender effect suggests that both male and female counselors are equally able to retain male clients. This could impact MHPSS programming in low-income and humanitarian contexts that rely on layperson-delivered interventions and rapid training of providers, as male clients are equally to complete a given intervention.

While depression has been cited by men as a barrier to initially seeking care for reasons related to stigma and masculine ideals (O’Brien, Hunt, & Hart, 2005; Vogel, Wade, & Hackler, 2007), there is very little information regarding its role in prematurely dropping out of treatment. One systematic review of literature from the US and Canada suggests that conformity to Western masculine norms impacts the experience of depressive symptoms, men’s attitudes and intentions towards treatment, and the type of coping strategies used/treatment sought (Seidler, Dawes, Rice, Oliffe, & Dhillon, 2016). The interaction between masculinity and depression may also interfere with treatment adherence in low-income contexts. The results presented in this chapter underscore the need for further

investigations into underlying mechanisms that shape the relationship between men's depression, masculinity, and treatment completion, beyond initial treatment seeking.

The lack of a significant finding for PTS symptoms was also notable, as extant research has indicated that dropout rates for PTS interventions are notably higher among men (Spinazzola et al., 2005). It may be the case that there was inadequate power to detect heterogeneity by completer status in this sample. However, in the preceding analysis (see Chapter 4) the effect of PTS on treatment completion was attenuated to a null finding after controlling for gender and depression score. Additional research that investigates the potential interaction between PTS and depression symptom intensity and their role in treatment completion could clarify the relationship between these constructs.

There are several limitations to this study, most notably power issues that affect the scope of the hierarchical analysis, and ultimately the interpretation of subsequent findings. Using counselor ID numbers as a proxy for both region of study and treatment orientation is an acceptable approximation of both variables, but is not a complete representation of both the effects of both factors. The dataset itself is limited in the information it provides. Variables related to socioeconomic status, employment, income, and counselor information such as age were missing for more than 50% of cases. For male participants, these are critical structural barriers related to treatment seeking (Andrade et al., 2013; Mojtabai et al., 2011). Because of the limited sample size, broader site-level characteristics related to cultural features of a given context, e.g. traditional masculinity or gender inequality (United Nations Development Programme, 2018), could not be included and would elucidate important gender issues related to men's engagement with mental health services. Future research would benefit from quantifying and qualifying cultural issues related to masculinity through formative work, or including short inventories in intake evaluations.

The findings presented here are derived from a trial-based sample rather than a pragmatic or “real-world” one. They represent, to a certain extent, an ideal pattern of implementation, evaluation, and follow-up. In contexts where fidelity of a given intervention is difficult to monitor, clients are less easily recruited and evaluated, and resources for implementation are scarce, one might expect the likelihood of drop-out to be greatly exacerbated. The extent to which the contributing factors identified in this investigation apply to such contexts is unclear, though this gap represents a significant challenge to improvements in men’s engagement with mental health services. The role of depression – and men’s experience thereof – could be similarly elevated when examining its relationship to treatment completion. Trials with pragmatic sampling frameworks that more readily account for the broader impact of depression on treatment completion are critical to understanding additional contributing factors related treatment completion among men.

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Chapter 6

Conclusions

6.1 Summary of Findings

In the preceding chapters, we used qualitative and quantitative approaches to examine issues in men's engagement with mental health services in low-income contexts. Chapter Three used grounded theory-based thematic analysis to describe proximal issues associated with men's decision to accept or decline a mental health intervention. We analyzed the interviews to identify local characterizations of masculinity, coping strategies, problem areas, and differences between men who accepted and declined the intervention. While definitions of masculinity were relatively uniform across respondents, reasons for accepting or declining therapy, and coping strategies were more heterogeneous when examined by treatment initiation status. The results from this investigation are better suited for hypothesis generation, and emphasize masculinity's interaction with other culturally-rooted constructs to shape proximal decisions related to care seeking (Addis & Mahalik, 2003; Berger, Addis, Green, Mackowiak, & Goldberg, 2013; Mahalik, Burns, & Syzdek, 2007;

Möller-Leimkühler, 2002). It may be the case that changing recruitment methods or descriptions of psychotherapies has a positive impact on improving men's likelihood of participating in or accepting mental health interventions in the future.

In Chapter Four, we utilized a multi-country, clinical trials dataset to identify barriers to mental health treatment engagement for men and women, with specific interest in potential moderation by gender for predictors of treatment completion. There were three interventions tested in the included trials: cognitive processing therapy (CPT), behavioral activation (BA), and the Common Elements Treatment Approach (CETA). The regions included Iraqi Kurdistan, Southern Iraq, the Thailand-Burma Border, Colombia, and the Democratic Republic of Congo (DRC). Our analysis utilized a cluster bootstrapped hierarchical logistic modeling approach, incorporating a random effects coefficient for site to account for between-site variability in treatment completion. The results indicated a significant interaction effect for gender and depression score, as well as a moderation effect for gender based on subsequent stratified analyses. Men with higher depression scores were significantly less likely to complete their assigned intervention than men with lower depression. While there is some evidence that depression impacts healthcare engagement among men in high-income countries (DiMatteo, Lepper, & Croghan, 2000), there are no studies that suggest this occurs specifically among men or mental health treatment seekers in low-income settings. The pronounced role of depression in treatment completion is a novel finding, and particularly relevant as depression prevalence increases among younger men (Seedat, Scott, Angermeyer, & et al., 2009).

In Chapter Five, we used the same dataset from the preceding chapter to more closely examine predictive factors associated with treatment completion among men in Kurdistan, Southern Iraq, the Thailand-Burma Border, and Colombia. The same three

interventions (i.e. CETA, BA, and CPT) were included. Rather than clustering by site, given the interest in counselor-level predictors, the logistic hierarchical modeling analysis relied on counselor ID as the primary random effects variable. We included both individual- and counselor-level predictors to examine the role that modifiable intervention characteristics might have in treatment engagement. A one-point difference (e.g. experiencing symptoms “Sometimes” compared to “Often”) on baseline depression severity scores was associated with a 70% reduction in the likelihood of treatment completion among men. There were no other significant predictors of completion in the men only analysis. The lack of significant effects for counselor gender and experience are notable for their inconsistency with extant research (Swift & Greenberg, 2012). The lack of significant difference between counselors with experience and without has programmatic implications, as it provides further support for the use of lay-counselors and paraprofessionals in task shifting approaches for mental health interventions (Purgato et al., 2018). While there was no context-specific effect for depression, the individual effect further highlights the importance of addressing depression as a barrier to treatment engagement among men in low-income contexts.

All three chapters highlight the importance of greater cultural consideration when conducting mental health interventions with men in low-income or humanitarian context. There are implications for these findings to research and practice, as adaptation strategies for men might apply to treatment development, dissemination, and evaluation as well as recruitment and follow-up strategies. These implications are 1) that masculinity can vary as a function of culture, and can subsequently shape men’s conceptualizations of both mental illness and treatment; 2) that there are sociobehavioral differences between men and women that impact treatment engagement; and 3) that among men specifically, symptom severity of

mental health problems (i.e. depression) can greatly impact the likelihood of premature termination from therapy despite evidence of lower prevalence in global studies.

6.2 Strengths and Limitations

There are several strengths and limitations to these studies worth mentioning. The generalizability of these findings, particularly for the qualitative work (Chapter Three), may be limited due to the specific cultural context from which the data were gathered. The interviews themselves may reflect the experience of male former political prisoners alone, as coping mechanisms related to political activism or problem areas stemming from incarceration may not be shared by other Burmese men, nor among men in other contexts. Similarly, all five sites included in the multi-country dataset were active conflict or immediate post-conflict regions. Predictors of treatment completion might vary between humanitarian contexts, low-income countries without conflict, and active conflict settings. While the two quantitative investigations (i.e. Chapters Four and Five) attempted to account for between-site heterogeneity through the inclusion of a random effects coefficient, the extent to which one might generalize the findings presented remains limited.

The analyses for Chapters Four and Five were impacted by a high degree of missingness on potentially important variables. While missing data was acceptably low for included covariates (Dow & Eff, 2009), there were issues with other potential covariates that were omitted from analyses due to lack of data. In the men's only subgroup analysis, employment information was missing for 188 participants (54.97%), and from 729 participants (76.18%) in the full sample. As employment demands were among the primary reasons for declining treatment cited by respondents in Chapter Three, it is critical to explore this covariate in future studies. Counselor-level covariates were similarly impacted but to a

lesser degree. In the full sample, counselor age and education were missing for 17 (22.37%) and 29 (38.16)% of counselors, respectively. The extent to which these factors might impact treatment engagement among men in low-income contexts requires clarification, as it could have important programmatic implications for task-sharing interventions. While imputation of a potential exposure/predictor is typically not recommended (Schafer, 1999), future analyses might explore whether differential missingness of specific covariates is associated with treatment completion, and use multiple imputation methods to simulate missing values for subsequent analyses.

Lastly, these data were collected in highly monitored, controlled trials. They represent, in some respects, ideal circumstances in which mental health treatment might take place – with closely supervised providers, active follow-up for participants, and comparatively high ease of access for the clients themselves. In more naturalistic or pragmatic designs, one might expect to see more heterogeneity within a sample for common confounders, and potential effect magnification or attenuation for predictors of treatment completion depending on context. Covariates included in this analysis that were not found to be significant in the trial data (e.g. age among men, or posttraumatic stress) may indeed have an impact on treatment completion when examined in more clinically-oriented sampling frameworks.

The greatest strength of this investigation is its novelty. Issues relating to men's engagement with mental health services in the developing world remain largely unresearched. The analyses presented in these chapters are intended to be foundational, and to provide avenues for future investigations that may further benefit mental health programming in low-income settings. Attempting to accommodate variability across cultures and contexts through locally-derived instruments and interview procedures, as well as adapted

interventions bolsters the validity of these investigations along with subsequent findings. Global mental health, as a field, emphasizes the critical role of culture and context in studying the expression, experience, and treatment of mental disorders in diverse settings. These studies relied on assessment methods and interventions that were developed in conjunction with the communities that participated in our research.

6.3 Implications for Research

There several implications for future research presented in this dissertation. First, given gender differences in mental health treatment, future trials and intervention studies should focus on men in a more targeted way. Given the issues in recruiting and maintaining men in psychotherapy trials in low-income context, additional research that focuses specifically on men as a subpopulation of interest is critical for improving the evidence base for psychosocial interventions in novel contexts. The findings from Chapter Three suggest that men already have specific coping strategies and descriptions of distress that may be, in part, attributable to masculinity. There are broad-based societal ramifications for men's psychological distress and poor management of subsequent symptoms, and intervention research that more specifically addresses men's needs could improve outcomes for treatment adherence and symptom reduction.

Second, subsequent research should focus on further clarifying issues in treatment engagement (i.e. care initiation and sustaining care until treatment completion) that may be unique to men. Findings from Chapter Four suggest that there are gender differences in risk and protective factors related to treatment engagement in low-income settings, but sample limitations and data missingness limit both the interpretability of the findings and their magnitude. Beyond the missing numerical data in Chapters Four and Five, there are key

variables missing conceptually from these analyses. Specifically, the role of masculine gender norms is notably absent. Traditional masculinity scales have been developed (Mahalik et al., 2003) and validated (Parent & Moradi, 2009) for US-based samples, and could be adapted in conjunction with other outcome measures in low-income context. Such information could be useful for further research related to predictors of treatment engagement – specifically, in how masculinity interacts with depression to influence premature treatment termination. We attempted, in preliminary analyses, to incorporate the World Health Organization’s Gender Inequality Index (United Nations Development Programme, 2018) as a site-level proxy measure of gender role traditionality, but there were too few sites to generate interpretable findings.

Finally, and perhaps most significantly, future research should focus on issues related to men’s depression, and how it influences treatment engagement. This is a novel finding, as no previous investigations have involved such a large sample of men from multiple low-income or humanitarian settings or specifically examined this relationship. The extent to which it persists in similar contexts, in non-randomized/trial designs, or is driven by a single site in the dataset is unknown. However, the common finding in psychiatric epidemiology that men are less likely to experience depression – and subsequently less vulnerable to it – fails to account for the broader impact its symptoms or presentation may have on men who meet its criteria. Additional investigations that clarify the interaction between depression, aspects of masculine identity, and attitudinal/structural barriers in relation to treatment engagement for men are ultimately necessary to contextualize the findings presented here.

6.4 Implications for Practice

Mental health programs in the developing world might benefit by adapting recruitment, psychoeducation, treatments materials, and follow-up methodologies specifically for male clients. Men may have internalized biases regarding the nature of mental health problems and treatment, or experience external stigma regarding mental health problems at a societal level. The methods by which individual health workers describe interventions or mental health problems should change depending on if they are speaking with men or women. In the qualitative data, Burmese men were particularly interested in being of value to their community, and being self-sufficient in caring for themselves. Health providers could appeal to those goals in recruitment materials or psychoeducation to increase the likelihood of male participation. The quantitative findings suggest that follow-up protocols should give specific attention to men with greater depression symptoms, as they appear to be less likely to complete an intervention. A better understanding of masculinity in certain context could improve best practice for men's engagement with treatment.

As the field of global mental health evolves, the direction of research is shifting towards prevention of mental disorders through multi-sectoral interventions (i.e. integrated mental health and social improvement programs). For example, gender-based violence (GBV) initiatives in low-income contexts have started integrating safety planning and psychotherapy interventions to address the burden of psychological distress among affected women. Similar programs that actively seek out men who perpetrate violence could more actively address such harmful behaviors, and serve as a tool for decreasing GBV. Formative work that evaluates the relationship between masculinity, motivations behind violent behavior, and mental health outcomes could increase the likelihood that men report for preventative interventions.

The purpose of this dissertation was to demonstrate the need for more targeted efforts to encourage men's involvement with mental health interventions. Masculinity, as a facet of culture, can critically determine levels of stigma and prejudice, or conversely of acceptance towards mental health problems and interventions within diverse contexts. Men's engagement with treatment is as diverse and varied as men themselves. Future research and practice would benefit from addressing gender as thoughtfully as any other characteristic of culture.

6.5 References

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Supplementary Materials

Appendix A: IRB-Approved Interview Materials

A.1 Unmodified Semi-Structured Interview Guidelines

Semi-Structured Interview Plan for Participants

1. Tell me about why you decided to meet with a counselor.
 - a. Possible Probes:
 - i. What do you call your problem?
 - ii. What do you think caused this problem?
 - iii. How often do you have this problem and when you have it, how long does it last?
 - iv. What kind of support do you think someone with your problem should receive?
 - v. How does this problem impact your life?
 - vi. How common do you think this problem is for others?
 - vii. Can you tell me about someone you know who also has this problem? No need to use their name.
 - viii. What kinds of things have you tried in order to help yourself with this problem?
2. What kinds of problems would you call “problems with thoughts and feelings?”
 - a. Possible Probes:
 - i. What do people do about these problems?
 - ii. What causes these problems?
 - iii. What do people do to try and feel better when they have these problems? If a man has a mental health problem, what should he do?
 - b. Possible Probes
 - i. Who would be most helpful to him?
 - ii. What kind of help would he need?
3. What does it mean to be a man in your community?
 - a. Possible Probes
 - i. What are some important qualities of being a man?
 - ii. What are some important qualities of being a man who is able to function well in society? What about a man who is not functioning well in society?
 - iii. What does a “true” man look like?
 - iv. How does he behave?
4. Why did you decide to/not to enter CETA today?
 - a. Possible Probes:
 - i. How help do you think it is? Why?
 - ii. Do you know enough about it? What information would be helpful?
5. What support did you expect to receive for your problem that you learned are not part of the counseling offered by AAPP? Where would you expect to find that support?

- a. Possible Probes
 - i. What other therapy, treatment, help or care have you sought out?
 - ii. What other therapy, treatment, help or care would you like to receive?

A.2 Recruitment Script

Recruitment Script for Qualitative Study for Men' Engagement With Psychotherapy in Yangon Myanmar

Hello. As a representative of the Assistance Association for Political Prisoners, I am asking if you would like to learn more about a study we are helping with to understand men's interest in mental health services here in Yangon, Myanmar. You have been selected because you have been identified by our program as experiencing symptoms of a mental health problem, and have decided to participate/not participate in the talk therapy program provided at this clinic.

Our team here at AAPP is partnered with Johns Hopkins University in the United States to learn more about mental health treatment in Myanmar. Because of this, I would like to invite you to participate in an interview for our research study.

It is your choice if you would like to participate in this research study. If you are interested, I will read to you consent form that describes the study and if you agree to participate, we can start the interview process immediately. Or, if you would prefer to come back at a later date, please let me know and I will make sure to be available.

We are very grateful for your time, and for your honesty. Can I proceed with telling you more about the study?

A.3 Informed Consent

CONSENT FORM – PARTICIPANT INTERVIEWS (To be read to the potential respondent)

Introduction

I am from the Assistance Association for Political Prisoners, and I would like to speak with you about your thoughts about why men decide to enter mental health treatment or not. Please feel free to stop me or ask questions at any time. We are hoping to learn more about your thoughts about mental health care for men in Myanmar. We would like to ask you to join our study because you have just completed a mental health assessment, and been offered mental health care here at the clinic. Interviewers are collecting this information as part of a research study conducted by Johns Hopkins University in the United States. You do not have to join or participate, it is your choice.

Procedures

Your participation is voluntary and you are free to say no. If you say yes, we will ask you to participate in an interview that I will conduct here in the clinic. The interview will take between 45 minutes and one hour. The interview will be audio-recorded, and no identifying data will be included in the recorded portion. If you are not comfortable with being tape recorded, you may choose not to be. You may stop the tape recording at any time throughout the course of the interview. Not participating in this interview will not affect your ability to continue to receive any service you are currently receiving, or your ability to receive future services.

Risks

You may be uncomfortable answering some of the questions in the interview. You do not have to participate. If you choose to participate, you do not have to answer all the questions and you may stop at any time. You may also choose not to have your interview audio-recorded. While we will not collect any data that could identify you, such as your name or where you live, we will share the overall results of this study with other researchers.

Benefits

Answering the questions during this interview will provide no direct benefit to you. We do hope that the information learned from this study will help organizations that provide health programs to men in their program planning.

Confidentiality

We will not let anyone outside our work see your answers. We will do our best to keep your information safe by not writing down your name and keeping your records locked in a cabinet in a secure room at AAPP Headquarters in Yangon for 3 years following the completion of the study. If we share your information with other researchers, we will ask them to use the same protections. After I complete this form, it will be taken to a safe place and locked in a cabinet.

Research related injury

If you get injured because of participating in this study our staff will help you get necessary support for treatment as fast as possible.

Payment

We will not pay you to help us with this study.

Do you have any questions? You may contact the local study coordinators, Dr. Catherine Lee at 66 871966439, or Bo Kyi at +95(0)9425308840. You may also contact the principal investigator for this study, Dr. Judith Bass at +1 (410) 502-9840. If you have any questions about your rights as a research participant or if you think you have not been treated fairly, you may also contact the Ethics Committee which approved this study (Johns Hopkins University Institutional Review Board (IRB) at +1-(410)-955-3008.

Consent

Do you agree to participate in this interview?

☐ Yes, *the interview may proceed*

☐ No, *the interview is terminated*

May I begin?

Name and signature of person obtaining consent

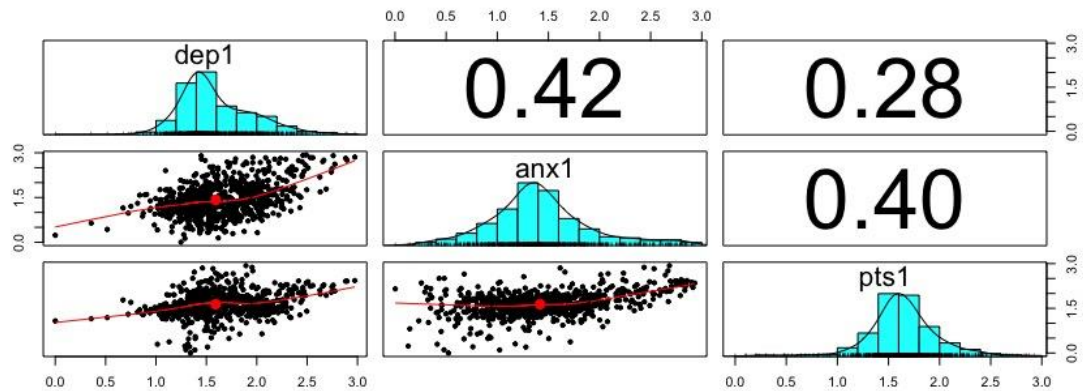
Date

Witness Name and signature

Date

Appendix B: Correlation Matrices, 2 x 2 Tables, and Exploratory Information Related to Chapter 4

The graph matrix below shows the frequency distribution of the three continuous mental health outcomes (depression, anxiety, and PTS at baseline) on the diagonal. The numbers in the top right corner are the Pearson's correlation values between variables (e.g. the correlation between dep1 and anx1 is .42). The scatter plots in the lower left represent the plotted values of the adjacent variables, with a fitted lowess smoothed trend line in red.



	comple~r	marital	educat~n	depl	anx1	pts1	depquart
completer	1.0000						
marital	0.0493	1.0000					
education	-0.0095	-0.2276	1.0000				
depl	0.0102	0.0231	-0.3000	1.0000			
anx1	0.0742	0.0653	-0.1700	0.4228	1.0000		
pts1	0.0664	0.0478	-0.1310	0.2779	0.4002	1.0000	
depquart	-0.0352	-0.0094	-0.0478	0.4472	0.2327	0.1258	1.0000
anxquart	-0.0132	0.0373	-0.0069	0.2114	0.6031	0.1776	0.2302
ptsquart	0.0626	0.0111	-0.0617	0.1214	0.1289	0.6032	0.1480
site	-0.1878	-0.1087	0.2136	-0.1965	-0.2560	-0.1207	0.0016
age	0.0230	0.2859	-0.2432	0.0162	0.1085	0.0159	0.0466
agecat	0.0370	0.2796	-0.2153	0.0232	0.1238	0.0329	0.0380
age_cmc	0.0589	0.3043	-0.2648	0.0283	0.1368	0.0259	0.0470
maritalbin~y	0.0201	-0.0516	-0.0105	0.0685	0.0417	-0.0243	0.0223
educationp~y	-0.0135	-0.2011	0.8706	-0.2050	-0.1118	-0.0505	-0.0469
	anxquart	ptsquart	site	age	agecat	age_cmc	marita~y
anxquart	1.0000						
ptsquart	0.1332	1.0000					
site	-0.0035	-0.0053	1.0000				
age	0.1270	0.0226	0.1665	1.0000			
agecat	0.1284	0.0179	0.1087	0.9362	1.0000		
age_cmc	0.1296	0.0240	-0.0000	0.9846	0.9311	1.0000	
maritalbin~y	0.0303	-0.0338	0.0292	0.1409	0.1896	0.1401	1.0000
educationp~y	0.0201	-0.0201	0.2245	-0.2335	-0.2112	-0.2619	-0.0579
	educat~y						
educationp~y	1.0000						

completer marital status	0	1	Total
single	56 27.18	158 21.09	214 22.41
married/partnered	123 59.71	465 62.08	588 61.57
divorced/separated	7 3.40	53 7.08	60 6.28
widowed	20 9.71	73 9.75	93 9.74
Total	206 100.00	749 100.00	955 100.00

Pearson $\chi^2(3) = 6.3007$ Pr = 0.098

education completed	completer 0	1	Total
none	48 23.30	228 30.36	276 28.84
primary	84 40.78	265 35.29	349 36.47
secondary	56 27.18	145 19.31	201 21.00
more	18 8.74	113 15.05	131 13.69
Total	206 100.00	751 100.00	957 100.00

Pearson $\chi^2(3) = 13.6047$ Pr = 0.003

depquart	completer 0	1	Total
0	147 71.36	564 75.10	711 74.29
1	59 28.64	187 24.90	246 25.71
Total	206 100.00	751 100.00	957 100.00

Pearson $\chi^2(1) = 1.1844$ Pr = 0.276

anxquart	completer		Total
	0	1	
0	151	561	712
	73.30	74.70	74.40
1	55	190	245
	26.70	25.30	25.60
Total	206	751	957
	100.00	100.00	100.00

Pearson chi2(1) = 0.1662 Pr = 0.683

ptsquart	completer		Total
	0	1	
0	164	548	712
	79.61	72.97	74.40
1	42	203	245
	20.39	27.03	25.60
Total	206	751	957
	100.00	100.00	100.00

Pearson chi2(1) = 3.7446 Pr = 0.053

site	completer		Total
	0	1	
drc	16	141	157
	7.77	18.77	16.41
thailand	35	147	182
	16.99	19.57	19.02
n_iraq	49	166	215
	23.79	22.10	22.47
s_iraq	28	200	228
	13.59	26.63	23.82
columbia	78	97	175
	37.86	12.92	18.29
Total	206	751	957
	100.00	100.00	100.00

Pearson chi2(4) = 79.2700 Pr = 0.000

Quartile age categories	completer		
	0	1	Total
18 - 29	59	186	245
	28.64	24.77	25.60
29-39	52	187	239
	25.24	24.90	24.97
39-49	46	184	230
	22.33	24.50	24.03
49 or older	49	194	243
	23.79	25.83	25.39
Total	206	751	957
	100.00	100.00	100.00

Pearson chi2(3) = 1.5385 Pr = 0.673

maritalbin ary	completer		
	0	1	Total
0	83	284	367
	40.29	37.92	38.43
1	123	465	588
	59.71	62.08	61.57
Total	206	749	955
	100.00	100.00	100.00

Pearson chi2(1) = 0.3848 Pr = 0.535

educationp rimary	completer		
	0	1	Total
0	132	493	625
	64.08	65.65	65.31
1	74	258	332
	35.92	34.35	34.69
Total	206	751	957
	100.00	100.00	100.00

Pearson chi2(1) = 0.1755 Pr = 0.675

Dep1

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	206	1.586344	.0233179	.3346743	1.54037	1.632317
1	747	1.595341	.013558	.3705573	1.568725	1.621958
combined	953	1.593396	.0117571	.3629503	1.570324	1.616469
diff		-.0089976	.0285763		-.0650774	.0470822
diff = mean(0) - mean(1)					t =	-0.3149
Ho: diff = 0					degrees of freedom =	951
Ha: diff < 0			Ha: diff != 0		Ha: diff > 0	
Pr(T < t) = 0.3765			Pr(T > t) = 0.7529		Pr(T > t) = 0.6235	

Anx1

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	206	1.34991	.0345789	.4963002	1.281735	1.418086
1	747	1.438522	.0178983	.4891827	1.403385	1.473659
combined	953	1.419368	.0159317	.4918237	1.388102	1.450633
diff		-.0886116	.0386181		-.1643982	-.012825
diff = mean(0) - mean(1)					t =	-2.2946
Ho: diff = 0					degrees of freedom =	951
Ha: diff < 0			Ha: diff != 0		Ha: diff > 0	
Pr(T < t) = 0.0110			Pr(T > t) = 0.0220		Pr(T > t) = 0.9890	

PTS1

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	206	1.592279	.0298399	.4282831	1.533446	1.651111
1	747	1.649558	.0121303	.3315365	1.625745	1.673372
combined	953	1.637177	.011507	.3552278	1.614595	1.659759
diff		-.0572797	.027908		-.112048	-.0025114
diff = mean(0) - mean(1)					t =	-2.0524
Ho: diff = 0					degrees of freedom =	951
Ha: diff < 0			Ha: diff != 0		Ha: diff > 0	
Pr(T < t) = 0.0202			Pr(T > t) = 0.0404		Pr(T > t) = 0.9798	

Age

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	206	38.71845	.9832804	14.11273	36.77981	40.65709
1	751	39.49001	.4990318	13.67566	38.51035	40.46968
combined	957	39.32393	.4450271	13.7671	38.45059	40.19727
diff		-.7715667	1.083071		-2.89704	1.353906

diff = mean(0) - mean(1) t = -0.7124
Ho: diff = 0 degrees of freedom = 955

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.2382 Pr(|T| > |t|) = 0.4764 Pr(T > t) = 0.7618

Cluster-mean centered Age

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	206	-1.524399	.9746398	13.98871	-3.446003	.3972038
1	751	.4181451	.4894606	13.41336	-.5427306	1.379021
combined	957	7.53e-07	.4381839	13.5554	-.8599126	.8599141
diff		-1.942545	1.064846		-4.032252	.1471631

diff = mean(0) - mean(1) t = -1.8242
Ho: diff = 0 degrees of freedom = 955

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0342 Pr(|T| > |t|) = 0.0684 Pr(T > t) = 0.9658

Appendix C: Analysis code for bootstrapped models used in Chapter 4

```
set seed 52488

pwcorr completer marital education dep1 anx1 pts1 depquart anxquart ptsquart site age
agecat age_cmc maritalbinary educationprimary

foreach v in marital education depquart anxquart ptsquart site agecat maritalbinary
educationprimary {
    tab `v' completer, chi2 col
}

foreach v in dep1 anx1 pts1 age age_cmc {
    ttest `v', by(completer)
}

megrlgit completer || site:, var
estat icc

megrlgit completer age_cmc, or ||site:, var
estimate store CIM
megrlgit completer age_cmc, or ||site:age_cmc, var
estimate store AIM
lrtest CIM AIM

//lr test suggests leaving age as a RE term
megrlgit completer age_cmc, or ||sitetreat:, var
estimate store CIM
megrlgit completer age_cmc, or ||sitetreat:age_cmc, var
estimate store AIM
lrtest CIM AIM

**final analyses**

//full model, no gender; age and agecat
bootstrap _b, cluster(site) idcluster(newsite) rep(1000): ///
megrlgit completer i.agecat maritalbinary educationprimary depquart ptsquart , or||
newsite:, var

bootstrap _b, cluster(site) idcluster(newsite) rep(1000): ///
megrlgit completer age_cmc maritalbinary educationprimary depquart ptsquart , or||
newsite:, var

//full model gender; age and agecat
bootstrap _b, cluster(site) idcluster(newsite) rep(1000): ///
megrlgit completer female i.agecat maritalbinary educationprimary depquart ptsquart,
or|| newsite:, var

bootstrap _b, cluster(site) idcluster(newsite) rep(1000): ///
megrlgit completer female age_cmc maritalbinary educationprimary depquart ptsquart, or||
newsite:, var

//stratified models, male; age agecat
bootstrap _b, cluster(site) idcluster(newsite) rep(1000): ///
megrlgit completer i.agecat maritalbinary educationprimary depquart ptsquart if
female==0, or|| newsite:, var

bootstrap _b, cluster(site) idcluster(newsite) rep(1000): ///
megrlgit completer age_cmc maritalbinary educationprimary depquart ptsquart if
female==0, or|| newsite:, var

//stratified models, female; age agecat
bootstrap _b, cluster(site) idcluster(newsite) rep(1000): ///
megrlgit completer i.agecat maritalbinary educationprimary depquart ptsquart if
female==1, or|| newsite:, var

bootstrap _b, cluster(site) idcluster(newsite) rep(1000): ///
```

```

mefrlogit completer age_cmc maritalbinary educationprimary depquart ptsquart if
female==1, or || newsite:, var

//interaction models
bootstrap _b, cluster(site) idcluster(newsite) rep(1000): ///
mefrlogit completer female##(c.age_cmc maritalbinary educationprimary depquart ptsquart),
or || newsite:, var

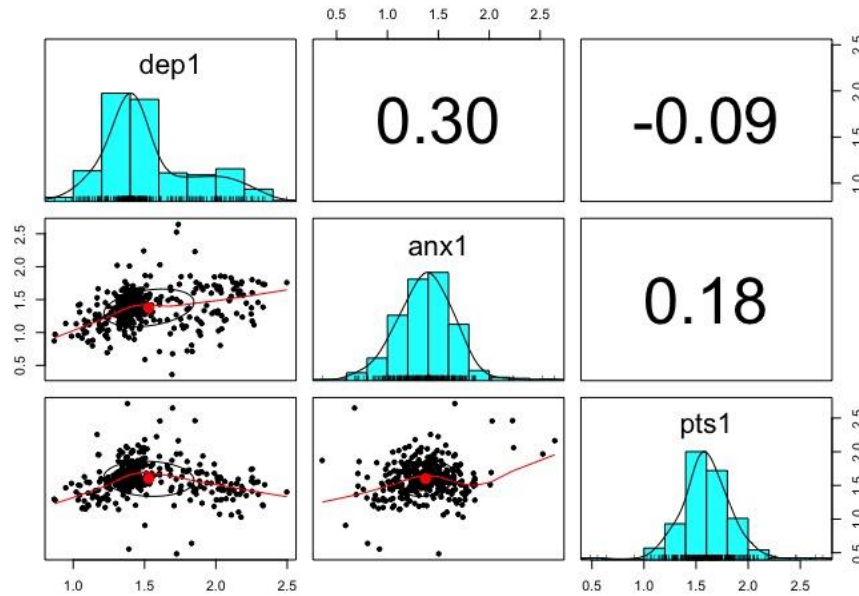
bootstrap _b, cluster(site) idcluster(newsite) rep(1000): ///
mefrlogit completer female##(agecat maritalbinary educationprimary depquart ptsquart
therapy), or || site:, var

testparm female#depquart
//Looking at OR's
margins, over(female depquart)

capture log close

```

Appendix D: Correlation matrices, 2 x 2 tables, Chi-square and t-test results from exploratory analyses related to Chapter 5



	comple~r	marital	educat~n	dep1	anx1	pts1	c_expe~e
completer	1.0000						
marital	0.0347	1.0000					
education	0.0565	-0.1144*	1.0000				
dep1	-0.1298*	-0.0165	-0.2479*	1.0000			
anx1	-0.0046	0.0328	-0.0538	0.2998*	1.0000		
pts1	0.0147	0.0436	-0.0547	-0.0926	0.1809*	1.0000	
c_experience	-0.0013	0.0181	-0.1389*	0.4290*	0.0881	0.1133*	1.0000
c_age	0.1067	0.0470	0.1943*	-0.5027*	-0.0928	0.0553	-0.2814*
gender_con~e	0.0792	0.0394	-0.0635	0.0613	0.0801	0.0166	0.2343*
gii	-0.0996	0.0009	0.0899	-0.5521*	-0.2221*	-0.1216*	-0.4339*
site	-0.0305	0.0884	-0.1165*	0.0313	0.2521*	0.4014*	0.2015*
age_cmc	0.0357	0.3067*	-0.1849*	0.0209	0.1137*	0.0772	0.0414
therapy	-0.0233	0.0258	0.0981	-0.3814*	-0.0344	-0.1983*	-0.3370*
	c_age	gender~e	gii	site	age_cmc	therapy	
c_age	1.0000						
gender_con~e	0.0850	1.0000					
gii	0.1276*	-0.3267*	1.0000				
site	0.1213	0.1085*	-0.3289*	1.0000			
age_cmc	-0.0330	0.0134	0.0091	0.0820	1.0000		
therapy	0.4860*	-0.1861*	0.6295*	-0.1870*	-0.0046	1.0000	

	completer	maritalbin~y	educationp~y	depquart	anxquart	ptsquart	c_age
completer	1.0000						
maritalbin~y	0.0274	1.0000					
educationp~y	0.0217	-0.1352*	1.0000				
depquart	-0.1004	0.0613	-0.1093*	1.0000			
anxquart	-0.0672	0.1347*	-0.0027	0.1798*	1.0000		
ptsquart	0.0325	-0.0708	-0.0693	0.1039	-0.0480	1.0000	
c_age	0.1067	-0.0250	0.1610*	-0.0943	-0.0226	-0.0654	1.0000
gender_con~e	0.0792	0.0624	-0.0671	0.0239	0.0383	-0.0002	0.0850
site	-0.0305	0.2404*	-0.0425	-0.0010	-0.0010	-0.0010	0.1213
gii	-0.0996	-0.2974*	0.0008	-0.0066	-0.0066	-0.0066	0.1276*
agecat	0.0216	0.4100*	-0.1835*	0.0292	0.1346*	-0.0204	0.0195
therapy	-0.0233	-0.1704*	0.0891	-0.0587	0.0499	-0.1964*	0.4860*

	gender~e	site	gii	agecat	therapy
gender_con~e	1.0000				
site	0.1085*	1.0000			
gii	-0.3267*	-0.3289*	1.0000		
agecat	0.0419	0.1956*	-0.0811	1.0000	
therapy	-0.1861*	-0.1870*	0.6295*	-0.0353	1.0000

maritalbin~y	completer		Total
	0	1	
0	22	78	100
	31.88	28.78	29.41
1	47	193	240
	68.12	71.22	70.59
Total	69	271	340
	100.00	100.00	100.00

Pearson chi2(1) = 0.2549 Pr = 0.614

educationp~y	completer		Total
	0	1	
0	37	139	176
	53.62	50.92	51.46
1	32	134	166
	46.38	49.08	48.54
Total	69	273	342
	100.00	100.00	100.00

Pearson chi2(1) = 0.1616 Pr = 0.688

depquart	completer		Total
	0	1	
0	45	208	253
	65.22	76.19	73.98
1	24	65	89
	34.78	23.81	26.02
Total	69	273	342
	100.00	100.00	100.00

Pearson chi2(1) = 3.4450 Pr = 0.063

anxquart	completer		Total
	0	1	
0	47 68.12	206 75.46	253 73.98
1	22 31.88	67 24.54	89 26.02
Total	69 100.00	273 100.00	342 100.00

Pearson chi2(1) = 1.5422 Pr = 0.214

ptsquart	completer		Total
	0	1	
0	53 76.81	200 73.26	253 73.98
1	16 23.19	73 26.74	89 26.02
Total	69 100.00	273 100.00	342 100.00

Pearson chi2(1) = 0.3609 Pr = 0.548

gender_con cordance	completer		Total
	0	1	
0	26 40.62	85 31.14	111 32.94
1	38 59.38	188 68.86	226 67.06
Total	64 100.00	273 100.00	337 100.00

Pearson chi2(1) = 2.1136 Pr = 0.146

site	completer		Total
	0	1	
thailand	14 20.29	57 20.88	71 20.76
n_iraq	23 33.33	68 24.91	91 26.61
s_iraq	19 27.54	135 49.45	154 45.03
columbia	13 18.84	13 4.76	26 7.60
Total	69 100.00	273 100.00	342 100.00

Pearson chi2(3) = 21.7129 Pr = 0.000

gii	completer		Total
	0	1	
.393	23	68	91
	33.33	24.91	26.61
.411	19	135	154
	27.54	49.45	45.03
.506	14	57	71
	20.29	20.88	20.76
.508	13	13	26
	18.84	4.76	7.60
Total	69	273	342
	100.00	100.00	100.00

Pearson chi2(3) = 21.7129 Pr = 0.000

Quartile age categories	completer		Total
	0	1	
18 - 29	15	49	64
	21.74	17.95	18.71
29-39	18	67	85
	26.09	24.54	24.85
39-49	15	83	98
	21.74	30.40	28.65
49 or older	21	74	95
	30.43	27.11	27.78
Total	69	273	342
	100.00	100.00	100.00

Pearson chi2(3) = 2.1382 Pr = 0.544

psychother apy study	completer		Total
	0	1	
CPT	23	106	129
	33.33	38.83	37.72
BA	13	36	49
	18.84	13.19	14.33
CETA	33	131	164
	47.83	47.99	47.95
Total	69	273	342
	100.00	100.00	100.00

Pearson chi2(2) = 1.6700 Pr = 0.434

depl

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	69	1.611665	.0408473	.339303	1.530155	1.693174
1	270	1.509935	.0186777	.306906	1.473162	1.546708
combined	339	1.530641	.0171586	.3159226	1.49689	1.564392
diff		.1017299	.042318		.0184891	.1849707
diff = mean(0) - mean(1)				t =	2.4039	
Ho: diff = 0				degrees of freedom =	337	
Ha: diff < 0			Ha: diff != 0		Ha: diff > 0	
Pr(T < t) = 0.9916			Pr(T > t) = 0.0168		Pr(T > t) = 0.0084	

anx1

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	69	1.376954	.0453748	.3769118	1.28641	1.467498
1	270	1.373694	.0157992	.2596078	1.342588	1.4048
combined	339	1.374357	.0155736	.2867406	1.343724	1.404991
diff		.0032601	.0387366		-.0729358	.0794561
diff = mean(0) - mean(1)				t =	0.0842	
Ho: diff = 0				degrees of freedom =	337	
Ha: diff < 0			Ha: diff != 0		Ha: diff > 0	
Pr(T < t) = 0.5335			Pr(T > t) = 0.9330		Pr(T > t) = 0.4665	

pts1

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	69	1.591453	.0397148	.3298962	1.512203	1.670702
1	270	1.600998	.0146733	.2411073	1.572109	1.629887
combined	339	1.599055	.0141812	.261104	1.571161	1.62695
diff		-.0095456	.0352698		-.0789223	.0598311
diff = mean(0) - mean(1)				t =	-0.2706	
Ho: diff = 0				degrees of freedom =	337	
Ha: diff < 0			Ha: diff != 0		Ha: diff > 0	
Pr(T < t) = 0.3934			Pr(T > t) = 0.7868		Pr(T > t) = 0.6066	

age_cmc

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	69	.7977523	1.550524	12.87962	-2.29627	3.891774
1	273	1.947144	.7851278	12.97244	.4014439	3.492843
combined	342	1.715249	.6998863	12.94317	.338611	3.091887
diff		-1.149391	1.745455		-4.582642	2.283859

```

diff = mean(0) - mean(1)
Ho: diff = 0
t = -0.6585
degrees of freedom = 340

```

```

Ha: diff < 0
Pr(T < t) = 0.2553
Ha: diff != 0
Pr(|T| > |t|) = 0.5107
Ha: diff > 0
Pr(T > t) = 0.7447

```

c_age

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	51	38	1.260252	9	35.46871	40.53129
1	199	40.90955	.809008	11.41246	39.31417	42.50493
combined	250	40.316	.6963131	11.00968	38.94459	41.68741
diff		-2.909548	1.721552		-6.300274	.4811788

```

diff = mean(0) - mean(1)
Ho: diff = 0
t = -1.6901
degrees of freedom = 248

```

```

Ha: diff < 0
Pr(T < t) = 0.0461
Ha: diff != 0
Pr(|T| > |t|) = 0.0923
Ha: diff > 0
Pr(T > t) = 0.9539

```

```

Logistic regression
Log likelihood = -171.38799
Number of obs = 340
LR chi2(1) = 0.25
Prob > chi2 = 0.6157
Pseudo R2 = 0.0007

```

completer	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
maritalbinary	1.158211	.3371427	0.50	0.614	.654654	2.0491
_cons	3.545455	.8558808	5.24	0.000	2.208971	5.690546

```

Logistic regression
Log likelihood = -171.88523
Number of obs = 342
LR chi2(1) = 0.16
Prob > chi2 = 0.6875
Pseudo R2 = 0.0005

```

completer	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
educationprimary	1.114658	.3010278	0.40	0.688	.656544	1.892429
_cons	3.756757	.6949622	7.15	0.000	2.614264	5.398546

```

Logistic regression
Log likelihood = -170.31998
Number of obs = 342
LR chi2(1) = 3.29
Prob > chi2 = 0.0696
Pseudo R2 = 0.0096

```

completer	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
depquart	.5859375	.1699029	-1.84	0.065	.3319177	1.034361
_cons	4.622222	.7599292	9.31	0.000	3.348935	6.379622

```

Logistic regression
Log likelihood = -171.21941
Number of obs = 342
LR chi2(1) = 1.49
Prob > chi2 = 0.2217
Pseudo R2 = 0.0043

```

completer	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
anxquart	.6948367	.2043705	-1.24	0.216	.3904102	1.236643

_cons		4.382979	.7085118	9.14	0.000	3.192802	6.016816
-------	--	----------	----------	------	-------	----------	----------

Logistic regression	Number of obs	=	342
	LR chi2(1)	=	0.37
	Prob > chi2	=	0.5443
Log likelihood = -171.78227	Pseudo R2	=	0.0011

completer		Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
ptsquart		1.209062	.3824663	0.60	0.548	.6504076 2.247563
_cons		3.773585	.5829905	8.60	0.000	2.787725 5.108088

Logistic regression	Number of obs	=	250
	LR chi2(1)	=	2.88
	Prob > chi2	=	0.0898
Log likelihood = -125.0354	Pseudo R2	=	0.0114

completer		Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
c_age		1.024881	.0150183	1.68	0.094	.995864 1.054743
_cons		1.480123	.8687595	0.67	0.504	.4684726 4.676396

Logistic regression	Number of obs	=	337
	LR chi2(1)	=	2.06
	Prob > chi2	=	0.1512
Log likelihood = -162.78353	Pseudo R2	=	0.0063

completer		Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
gender_concordance		1.513313	.4329798	1.45	0.148	.86375 2.651364
_cons		3.269231	.7326742	5.29	0.000	2.10708 5.072361

Logistic regression	Number of obs	=	342
	LR chi2(1)	=	0.32
	Prob > chi2	=	0.5715
Log likelihood = -171.80603	Pseudo R2	=	0.0009

completer		Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
site		.9182577	.1387302	-0.56	0.572	.6829128 1.234707
_cons		4.861411	1.905174	4.04	0.000	2.255167 10.47963

Logistic regression	Number of obs	=	342
	LR chi2(1)	=	3.27
	Prob > chi2	=	0.0704
Log likelihood = -170.32967	Pseudo R2	=	0.0095

completer		Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
gii		.006364	.017581	-1.83	0.067	.0000283 1.429658
_cons		35.99036	44.00477	2.93	0.003	3.276703 395.3076

Logistic regression	Number of obs	=	342
	LR chi2(1)	=	0.16
	Prob > chi2	=	0.6893
Log likelihood = -171.88619	Pseudo R2	=	0.0005

completer		Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
-----------	--	------------	-----------	---	------	----------------------

agecat	1.051305	.1314686	0.40	0.689	.8227794	1.343302
_cons	3.467365	1.228596	3.51	0.000	1.73138	6.943954

Logistic regression

Number of obs	=	342
LR chi2(1)	=	0.19
Prob > chi2	=	0.6665
Pseudo R2	=	0.0005

Log likelihood = -171.87324

completer	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
therapy	.9386561	.1380969	-0.43	0.667	.7035195 1.252382
_cons	4.52432	1.545975	4.42	0.000	2.315767 8.839174

Appendix E: Stata code for primary analyses in Chapter 5

```
set seed 52488
megrlogit completer || conid:, var
estat icc
megrlogit completer || site:, var
estat icc
megrlogit completer || site: || conid:, var
estat icc

**Highest ICC and lowest p-value for LR test is using conid alone. OK
**Individual characteristics modeled with no MLM
logit completer dep1 pts1 educationprimary age, or
estat ic

**now looking at individual characteristics in a hierarchical framework
megrlogit completer dep1 pts1 educationprimary age, or || conid:, var
estat ic

**now incorporating counselor level details
megrlogit completer dep1 pts1 educationprimary age c_gender c_experience, or || conid:,
var
estat ic

**adding site on a whim
megrlogit completer dep1 pts1 educationprimary age c_gender c_experience site, or ||
conid:, var
estat ic

**Looking at the influence of depression. Decided to use the models with site and gen_con
because they are theoretically important.

*Model 1 is just like what you had before - it is the total effect of depression
*on dropout with random effects for counselor clustering:

megrlogit completer dep1 pts1 educationprimary age c_gender c_experience site, or ||
conid:, var

*Model 2 includes within-cluster centered depression score as well as the counselor mean.
The goal here is to partition identify
*Between- and within-counselor effects of depression
qui bys conid : egen mean_dep = mean(dep1)
qui gen dep_within = dep1 - mean_dep

qui bys site: egen site_dep = mean(dep1)
qui gen site_within = dep1 - site_dep

megrlogit completer dep_within mean_dep pts1 educationprimary age c_gender c_experience,
or || conid:, var
```

Appendix F: IRB approval for data collection in Yangon



FWA #00000287

Institutional Review Board Office

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Website: www.jhsph.edu/irb

INITIAL APPLICATION APPROVAL NOTICE

Date: June 11, 2018

To: Judith Bass, PhD
Department of Mental Health

IRB Approval Date: May 9, 2018

Approval Expiration Date: May 8, 2019

From: Joanne Katz, ScD
Chair, IRB-FC

IRB No: 000008538

Study Title: Mental Health Service Barriers among Men in Myanmar - A Qualitative Study

Single Reviewer <input type="checkbox"/> Convened <input checked="" type="checkbox"/> DHHS 46.110... <input type="checkbox"/> DHHS..... <input checked="" type="checkbox"/> FDA 56.110... <input type="checkbox"/> FDA..... <input checked="" type="checkbox"/> Category: GWAS <input type="checkbox"/>	Consent/Parental Permission Required From: Adult Participant..... <input checked="" type="checkbox"/> LAR <input type="checkbox"/> One Parent <input type="checkbox"/> Two Parents..... <input type="checkbox"/> Legal Guardian..... <input type="checkbox"/> (Foster Care Children)	Consent/Permission: Written Consent..... <input type="checkbox"/> Waiver/Alteration of Signature..... <input checked="" type="checkbox"/> (Oral Script) Waiver of Informed Consent... <input type="checkbox"/> Waiver of Parental Permission... <input type="checkbox"/> HIPAA Authorization..... <input type="checkbox"/> Disclosure Prep. To Research... <input type="checkbox"/> HIPAA Alteration/Waiver..... <input type="checkbox"/> LDS..... <input type="checkbox"/> Compliance System Tracking Required..... <input type="checkbox"/>	Study Site(s): U.S. <input type="checkbox"/> International <input checked="" type="checkbox"/> List Country(ies): Myanmar
Vulnerable Populations: Children <input type="checkbox"/> Foster Care Children <input type="checkbox"/> DHHS FDA 46.404... <input type="checkbox"/> 50.51..... <input type="checkbox"/> 46.405... <input type="checkbox"/> 50.52..... <input type="checkbox"/> 46.406... <input type="checkbox"/> 50.53..... <input type="checkbox"/>	Assent Required From: No children (waived) ... <input type="checkbox"/> Children aged: <input type="checkbox"/> Form of Assent: Written <input type="checkbox"/> Oral <input type="checkbox"/> Assent Statement in Parent Permission <input type="checkbox"/>	Pregnant Women/Fetuses 46.204..... <input type="checkbox"/> Neonates 46.205 <input type="checkbox"/> Prisoners 46.305 <input type="checkbox"/> 46.306 <input type="checkbox"/> Epidemiological Research... <input type="checkbox"/>	Sample Size: Screen: Enroll: Final Enrollment: 33 Secondary Data Analysis: (# specimens/subjects)

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Appendix H: Curriculum Vitae

Daniel Paul Lakin

Department of Mental Health, Johns Hopkins Bloomberg School of Public Health

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Born May 24th, 1988 in New Britain, Connecticut

EDUCATION AND TRAINING

Expected 2019	Doctor of Philosophy Global Mental Health Johns Hopkins Bloomberg School of Public Health NIMH Global Mental Health Training Program (T32MH103210) Advisors: Judith K Bass, PhD & Wietse Tol, PhD
2015	Master of Arts Clinical Psychology, Global Mental Health Columbia University, Teacher's College Advisor: Lena Verdeli, PhD
2010	Bachelor of Arts, Psychology Kenyon College Advisors: Irene Lopez, PhD & Michael Levine, PhD

PROFESSIONAL EXPERIENCE

2015 – Present | Research Associate | Johns Hopkins Bloomberg School of Public Health,
Department of Mental Health | Baltimore, MD

- Research coordinator for RCT of a guided self-help intervention for South Sudanese refugee women in northern Uganda.
- Qualitative in-depth interviews with former political prisoners in Yangon, Myanmar to examine motivations for mental health care-seeking.
- Follow-up from an RCT of Cognitive Processing Therapy for survivors of intimate partner violence outside Bukavu, Democratic Republic of the Congo

2015 | Intern | World Health Organization, Mental Health in Emergencies | Geneva,
Switzerland

Directed by Dr. Mark van Ommeren

- Supported the Department of Mental Health and Substance Abuse (DMHSA) in the development and testing of low intensity psychotherapeutic interventions.
- Assisted with the early stages of development of a low-intensity treatment protocol for low-income, humanitarian, and conflict settings.

2013 – 2015 | Graduate Research Assistant | Global Mental Health Lab | New York, NY

Directed by Dr. Lena Verdelli

- Completed meta-analysis investigating differences in efficacy of evidence-based therapy for common mental illness administered by professionals and laypeople.
- Assisted in development of new manual for conducting short-form, triage-based version of interpersonal psychotherapy.

- Conducted qualitative analysis of focus groups from internally displaced women (IDWs), case managers, and psychiatrists in Bogota, Colombia regarding scale implementation of stepped-care, case management based intervention.
- Conducted multiple literature reviews on projects ranging from case management efficacy studies in Jordan to suicidality risk factors in American teenagers.

2013 – 2015 | Research Assistant | New York State Psychiatric Institute | New York, NY

Directed by Dr. Myrna Weissman

- Compiled case studies from researchers for publication of new manual on short-form, triage-based interpersonal psychotherapy for depression.
- Assisted in constructing PCORI grant to investigate efficacy of new evidence-based psychotherapy for combating depression in primary care setting in New York City.

2009 | Undergraduate Research Fellow | Child Psychiatry Branch | NIMH | Bethesda, MD

Directed by Dr. Judith Rapoport & Dr. Philip Shaw

- Performed data analysis, interpretation, and presentation for study investigating longitudinal changes in neuroanatomical correlates associated with development of adolescent and adult depression using MRI and CT scans.
- Assisted Dr. Andy Mattai in administration of experimental transcranial direct current stimulation (TDCS) for treatment of childhood-onset schizophrenia in an in-patient child sample.
- Interfaced daily with prominent physicians, clinicians and patients in medical research hospital.
- Shadowed clinicians during therapy sessions, and presented findings to managing psychiatrists and peers.

CLINICAL EXPERIENCE

2013 | Intensive Case Manager, HomeFirst | San Jose, CA

Provided case management services for chronically homeless clients in northern Santa Clara County's new Housing 1000 initiative.

- Secured housing for chronically homeless by interfacing with private landlords and housing subsidy programs such as Section 8 and Santa Clara County's own funding sources.
- Coordinated appointments with medical practitioners, Social Security, General Assistance, and County Mental Health officials.
- Established new contact with providers in northern Santa Clara County, bridging gaps between San Jose and northern peninsula while conducting independent outreach and program development.
- Provided daily support to the city's homeless, mentally ill, and most vulnerable individuals in both case management and clinical capacity, providing counseling and crisis intervention for clients suffering from bipolar and unipolar depression, substance abuse and dependence, anxiety disorders, and personality disorders.

2011 – 2012 | Relief Counselor, Progress Foundation | San Francisco, CA

Provided direct service counseling at both crisis and transitional residential treatment facilities in San Francisco.

- Conducted group therapy sessions, provided case management, and one-on-one counseling for adult dual-diagnosis population.
- Provided counseling and support for patients suffering from broad range of severe mental illnesses.

- Emphasized and encouraged strong communication skills between clients, their peers, and staff.

PROFESSIONAL ACTIVITIES

SOCIETY MEMBERSHIP

2008 – Present | Psi Chi Psychology Honors Society Member

2013 – Present | American Psychological Association, Division 52 (International Psychology) Member

2010 – Present | Sigma Xi Scientific Research Honors Society Member

2015 – Present | American Public Health Association

2016 – Present | International Society for Traumatic Stress Studies

HONORS AND AWARDS

2018 | International Society for Traumatic Stress Studies | Frank W. Putnam Research Scholar Award

2018 | Center for Global Health, Johns Hopkins Bloomberg School of Public Health of Public Health | Global Health Field Research Award

2015 | NIMH Global Mental Health Training Fellow

2010 | Academic Merit List, Kenyon College

2009 | Research Fellowship, NIMH Child Psychiatry Branch

2009 | Summer Science Scholarship, Kenyon College Department of Psychology

2006 | Cum Laude Society

EDITORIAL ACTIVITIES

2018 | American Public Health Association, American Journal of Public Health

CLINICAL TRAINING

2014 – 2015 | Columbia University | Dr. Lena Verdeli

- Interpersonal Psychotherapy (IPT) for depression
- Cognitive Processing Therapy (CPT) for acute trauma symptoms
- Cognitive Behavioral Therapy (CPT) for depression and anxiety

PUBLICATIONS AND MANUSCRIPTS

PEER REVIEWED ARTICLES

Lakin, D.P., Murray, S.M., Kaysen, D., Mataboro, A., Bolton, P., Bass, J. When interventions end: Reflections on sustainability and responsibility from client, provider, and organizational perspectives. Under Review.

Lakin, D.P., Shen, G., Gargano, LM, & Mojtabai, R. Individual Characteristics of Care-Seeking Among Men with Posttraumatic Stress Disorder in the World Trade Center Health Registry: Examining the Lasting Mental Health Treatment Gap. Under Review.

Tol, W.A., Leku, M.R., **Lakin, D.P.**, Carswell, K., Augustinavicius, J., Adaku, A., Brown, F.L., Bryant, R.A., Garcia-Moreno, C., Musci, R., Ventevogel, P., White, R.G, van Ommeren, M. Guided self-help to reduce psychological distress in south Sudanese refugee women in Uganda: A cluster randomized trial. Under Review.

Shen, G., **Lakin, D.P.**, Gargano, LM, & Wyka, K. Mental health care and PTSD outcomes among survivors of the 9/11 terrorist attacks, 2003-2016. Under Review,

Murray, S.M., Bolton, P., Kane, J., **Lakin, D.P.**, Skavenski Wyk, S., Paul, R., & Murray, L. (2018) Measuring symptoms of psychopathology in Zambian orphans and vulnerable children: Scale validation and psychometric evaluation. *Assessment*.

Augustinavicius, J., Greene, M.C., **Lakin, D.P.**, & Tol, W. (2018) Monitoring and evaluation of mental health and psychosocial support programs in humanitarian settings: A scoping review. *Conflict and Health*.

Kane, J. C., Bolton, P., Murray, S. M., Bass, J. K., **Lakin, D.**, Whetten, K., Murray, L. K. (2018). Psychometric evaluation of HIV risk behavior assessments using Audio Computer Assisted Self-Interviewing (ACASI) among orphans and vulnerable children in Zambia. *AIDS Care*, 1-8. doi:10.1080/09540121.2017.1384787

Bass, J, Murray, S, **Lakin D.P.**, Bolton, P, & Kaysen, D. Enduring effects of cognitive processing therapy for female survivors of sexual violence in Eastern Congo: 5-year trial follow-up. Under Review.

BOOK CHAPTERS

Storr, C., **Lakin, D.P.**, & Tol, W. Adapting to acute stress. In *Public Mental Health*, ed Eaton, W. Second Edition. (In Press)

CLINICAL MANUALS

in Tol, W. A., Greene, M. C., Likindikoki, S., Misinzo, L., Ventevogel, P., Bonz, A. G., ... & Mbwambo, J. K. (2017). An integrated intervention to reduce intimate partner violence and psychological distress with refugees in low-resource settings: study protocol for the Nguvu cluster randomized trial. *BMC psychiatry*, 17(1), 186.

TEACHING EXPERIENCE

CLASSROOM INSTRUCTION

2018, 2019 | Teaching Assistant | Mental Health and the Law | Johns Hopkins Bloomberg School of Public Health

2018 | Teaching Assistant | Issues in Mental Health Research in Developing Countries

2018 | Guest Lecturer | *Mental Health Research and Practice in Humanitarian Contexts* | Issues in Mental Health Research in Developing Countries

2018 | Teaching Assistant | Mental Health Intervention and Prevention Programming in LMICs | Johns Hopkins Bloomberg School of Public Health

2017 | Teaching Assistant | Mental Health Services | Johns Hopkins Bloomberg School of Public Health

2017 | Stata Coding | Johns Hopkins Bloomberg School of Public Health

2014 | Teaching Assistant | Introduction to Global Mental Health | Columbia University, Teachers College

INVITED SEMINARS

2018 | Center for Humanitarian Health Advisory Board, Johns Hopkins Bloomberg School of Public Health | *Self-Help Plus: Development and Evaluation of a Guided Self-Help Intervention for Psychological Distress Among South Sudanese Refugee Women in Northern Uganda*

2018 | Department of Mental Health, Johns Hopkins Bloomberg School of Public Health | *Taking Global Lessons Local*

MENTORING

2018 | Brancati Fellowship for High School Seniors, MERIT Baltimore

PRESENTATIONS

SCIENTIFIC MEETINGS

Lakin, D.P., Win, K.S., Soe, K.N.C., Aung, H., Kyi, B., Lee, C., Tol, W., & Bass, J.K.

Thoughts like a river – Masculinity and mental health treatment among former political prisoners in Yangon, Myanmar. Center for Global Health Global Health Day Symposium, 2019.

Lakin, D.P., Murray, S.M., Kaysen, D., Mataboro, A., Bolton, P., Bass, J. *When interventions end: Reflections on sustainability and responsibility from client, provider, and organizational perspectives.* International Society for Traumatic Stress Studies Annual Meeting, 2018.

Tol, W., **Lakin, D.P.**, Augustinavicius, J., Brown, F., Bryant, R. Carswell, K., Kogan, C.,

Musci, R. Ventevogel, P. *The Effectiveness of a Guided Self-Help Intervention for South*

Sudanese Refugee Women: a Cluster Randomized Controlled Trial. ISTSS, 2018

Augustinavicius, J., **Lakin, DP.**, Marx, L., Brown, F., White, R., Bryant, R., Tol, W. *Priority*

Problems and Impact on Well-being from the Perspective of Refugees: a Case Study among South

Sudanese Refugees in Northern Uganda. ISTSS, 2018

Augustinavicius, J., **Lakin, DP.**, Heidenreich, S., Dejman, M., Adair, M., Porter, S., Bass, J.

Moderators of Psychotherapy Treatment Impact for Trauma-affected Populations Globally: A

Systematic Review of the Literature. ISTSS 2018.

Lakin, DP., Mojitbai, R., Shen, G., & Wyka, K. Care-Seeking Patterns Among Men with

Probable PTSD in the World Trade Center Health Registry: Examining the Lasting

Mental Health Treatment Gap (2018). American Public Health Association Annual

Conference.

Bass, J, Murray, S, **Lakin, DP**, Bolton, P, Kaysen, D. *Enduring Effects of Cognitive Processing*

Therapy for Female Survivors of Sexual Violence in Eastern Congo: 5 Year Trial Follow Up.

ISTSS, 2017

Lakin, DP, Rapoport, J, Giedd, J, & Shaw, P. (2009). Neuroanatomical correlates of

becoming depressed in childhood and adolescence. Summer poster presentation at

the National Institute of Health. Bethesda, MD

Lakin, DP. & López, I. (2009). Assessing the convergence of Taijin Kyofusho and social anxiety disorder symptomatology through meta-analysis. National Conference for Undergraduate Research at the University of Wisconsin, Lacrosse, WI.

Lakin, DP. & López, I. (2008). A meta-analysis of Taijin Kyofusho symptomatology and social phobia. Summer science poster presentation at Kenyon College, Gambier, OH.